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In This Issue

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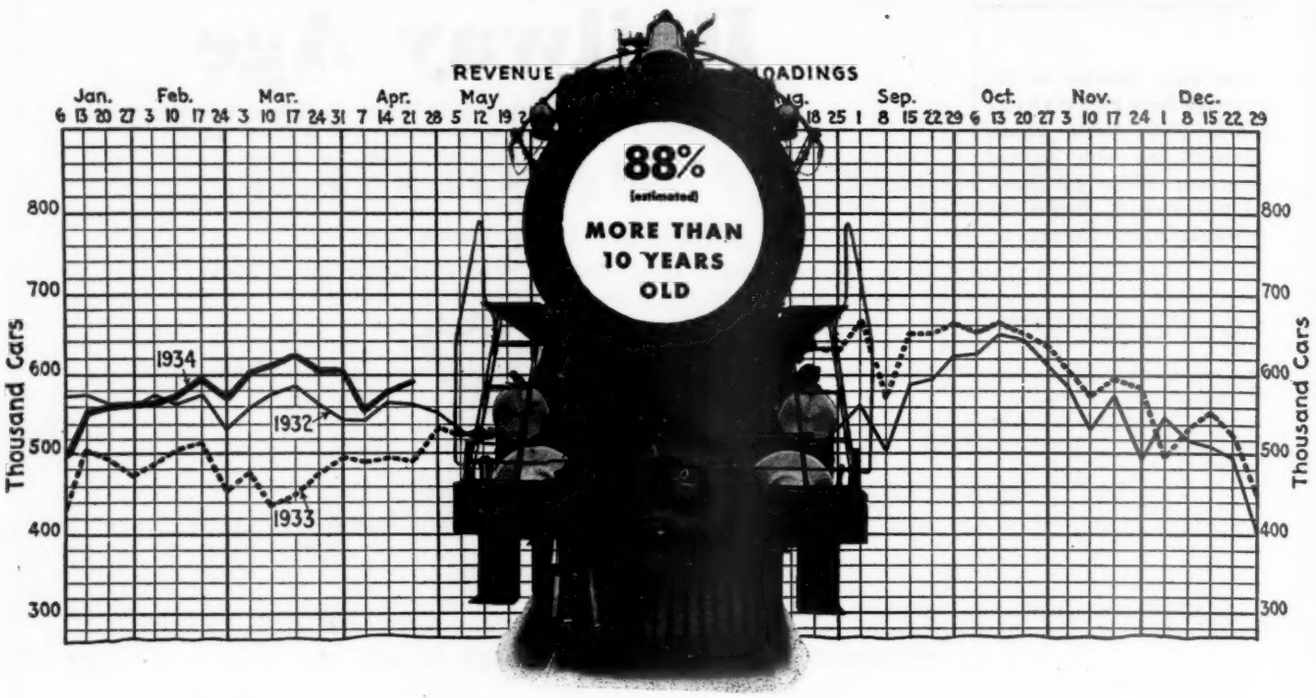


"BUSINESS INCREASES - AND SO DOES LOCOMOTIVE AGE"

Editorial in *Railway Mechanical Engineer,* April, 1934

Since the first of the year revenue freight car loadings have been substantially above those of the corresponding period of 1933. Since the middle of February they have topped the 1932 figures.

How will the existing locomotives — about 88% of which are more than 10 years old — meet this situation?

With some exceptions, only those locomotives comprised in the 12% built during the past decade are capable of efficient and economical main line service under present conditions.

Increasing traffic simply increases the penalties of obsolescence.

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS

PHILADELPHIA

Government Partisanship Regarding Competing Carriers

In an address at Harrisburg, Pa., last October, Joseph B. Eastman, Federal Co-ordinator of Transportation, made the following observation with respect to the regulation of the various forms of transportation:

> I entertain little doubt that whatever transportation regulation the federal government undertakes should be administered by a single body and not by several, or at least that any division of responsibility should not follow carrier groups. Otherwise each regulatory authority will become the partisan of its own form of transportation, and there will be much less chance of proper co-ordination.

The Co-ordinator's warning was truly prophetic, as subsequent events have shown. The Administration has done nothing to bring highway transport under the supervision of the Interstate Commerce Commission, in spite of unimpeachable expert advice and its promises to do so, but has permitted regulation under an NRA code—which is to say regulation primarily in the interest of the industry itself. And, as Mr. Eastman predicted would occur if regulation of all forms of transport were not co-ordinated under some central authority, the NRA has become openly partisan in the interest of highway transportation.

NRA Champions the Bus Business

This partisanship has gone to the extent of sending an NRA lawyer on the government payroll to the Interstate Commerce Commission to oppose a railroad application for authority to carry passengers for 1½ cents a mile. This might or might not be the ideal rate in the interest of either the railroads or the public, but what right has the NRA to object to it on the sole ground that such a rate offers "ruinous competition" to the bus industry which it has taken under its sheltering wing? The NRA ignores the fact that ruinous competition with the railroads has been the stock in trade of the long-haul bus business since its inception, and that its low rates have been its chief justification in the eyes of the public. The NRA attitude is, apparently, that its ward, the bus business, having had its fling at undercutting railroad rates, should now be protected from similar cutting by the railroads.

We do not pretend to know what the ideal rate for railway passenger service is, but it is plain that railroad rates should be based upon railroad conditions and should not be artificially adjusted solely to keep a competitor in business who needs a higher rate—and in particular a competitor the very existence of whom in the field of long-haul transportation rests upon ruthless undercutting of the railroad rate structure. The public has been led to believe that the bus industry provides cheap transportation. It ought to be interested, therefore, in the attempt this industry has been making to prevent a railroad from offering low rates.

Neophytes or Experts as Regulators?

To be sure, the NRA does not avow its advocacy of the bus industry. Sol A. Rosenblatt, the NRA spokesman appearing before the Interstate Commerce Commission, said he was merely a representative of one branch of the government asking another branch to help establish "fair" competition between competing industries. As it happens, Mr. Rosenblatt is not an expert in transportation matters, but comes instead from the motion picture industry. He cannot, therefore, be expected to know very much about the business of which he now speaks with so much authority—which is just one more instance of the danger of entrusting a complex task such as transport regulation to a hodge-podge agglomeration of bumptious neophytes such as the NRA, rather than to the expert Interstate Commerce Commission. Be that as it may, Mr. Rosenblatt should at least not need to be reminded that before he demands "fair" competition for his protegée in rates, the protegée ought to be required to provide equally fair competition in the wages it pays its employees.

It is a singular fact that the NRA, which is so concerned lest the railways regain traffic diverted from them by highway transport, is utterly oblivious to the unfair and anti-social competition to which the railways and their employees are subjected by reason of the low wages approved by the NRA for bus and truck employees which enable those transport agencies to quote rates in many instances which the railways, by reason of the enormously higher wages of their transportation employees, cannot meet. Spokesmen for the New Deal have given much lip service to the protection of labor standards, but in transportation they have officially given approval to the very competition by wage "chiseling" which they affect to abhor.

Is Code Authority to Be a Regulator or an Advocate?

Not only has NRA regulation of the bus industry proved Mr. Eastman's prediction that partisanship

would develop if the regulatory task were subdivided, but the regulation of truck transportation under a code is doing likewise. The truck code authority is being used to regiment truckers into national, regional and state organizations which are designed to give battle to the railroads in their attempt to hold traffic by rate adjustments. The matter of financing this activity is an easy one, because it is covered by an assessment upon truck operators and is collected by the authority of the federal government acting through the NRA. The truck code authority is privileged "to function through such trade associations and other agencies as it deems proper," and there is as yet no assurance that a goodly share of its collections which have the force of taxation may not be used for propaganda purposes.

As an opening gun in its anti-railroad program, the truck code authority last week filed a brief with the Interstate Commerce Commission opposing the granting of relief from the Fourth Section of the Interstate Commerce Act to the railroads of official classification territory. The code authority has functions as regards to truck transportation similar in many respects to those of the Federal Co-ordinator in dealing with the railroads. Both the code authority and the Co-ordinator's organization are financed by compulsory contributions from the industries with which they deal. From a standpoint of propriety and public policy, it would be quite as justifiable for the Federal Co-ordinator to intervene before the NRA as an out-and-out partisan of the railways in an effort to force truck rates up as it is for the truck code authority, considering its quasi-governmental character, similarly to appear as a partisan against the railroads before the Interstate Commerce Commission.

NRA Transport Regulation Is Worse Than a Failure

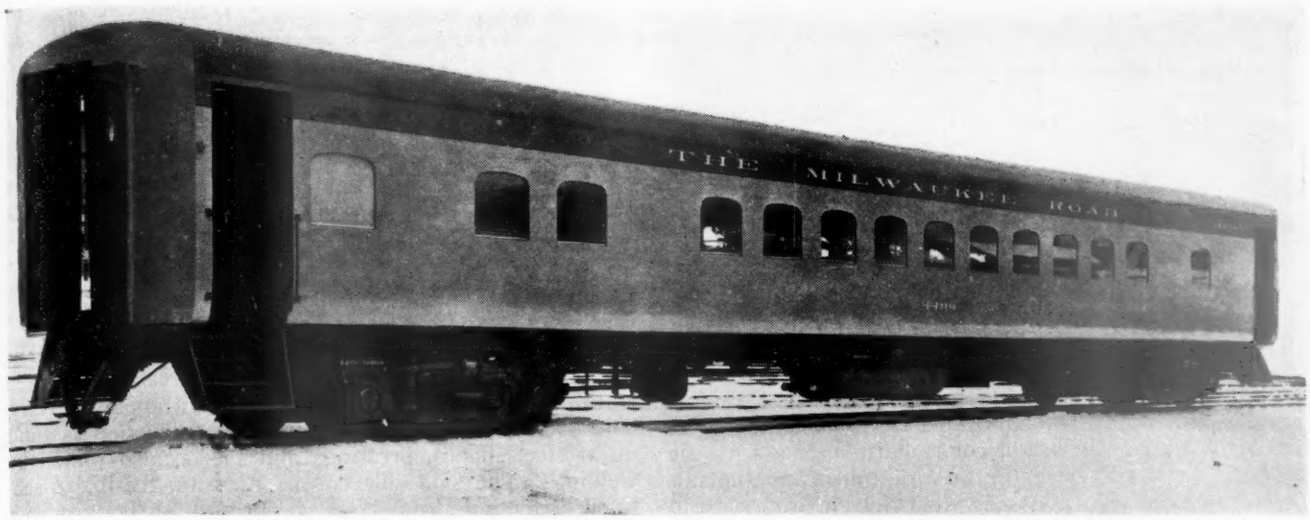
NRA "regulation" of motor transportation, it is quite clear, provides for little consideration of the public interest. In fact, both the bus and truck industries are using their "regulation" as an agency to try to force higher rates on railway patrons than the railways are willing to offer. NRA regulation of highway transport has sanctioned a continuance of wage "chiseling" in transportation, authorizing wages so low that highway operators can compete with the railways for much traffic, not on a basis of greater economy and better service to the public, but because of lower wage levels —the very kind of competition in industry the prevention of which was to have been one of the primary purposes of the NRA. A "regulation" which places little or no social control over an industry, which negatives the government's announced policy as regards labor, and which merely uses the government's authority to force every part of the industry under the domination of a militant coterie within it, the activities of this group meantime being financed by a compulsory levy on the whole industry—that is the accomplishment of the NRA to date in the field of highway transport regulation.

Art and Equipment Design

Not so many years ago—at least within the memory of those of middle age—it was the general practice to sell most foodstuffs in bulk at retail stores. As appreciation of proper sanitation increased and health departments of our cities and states were established and developed along scientific lines, more and more of these foodstuffs were packaged to protect them from contamination. Then, with steadily growing intensity of competition, the manufacturers, to stimulate sales, studied how to make the packages more attractive, until today the highest standards of commercial art are applied to the packaging of all sorts of consumers' goods. Skilled artists are also responsible for the design of most of the equipment and furnishings used in homes and offices. Architects—who are simply artists employing building materials rather than paint and canvas—have, like the designers of articles of consumption, succeeded in greatly improving the appearance of homes, inside and out; not even the lowly garage having escaped their attention.

The automobile, which in its early stages was designed from purely service considerations, and was a pretty awkward looking contraption at that, has gradually been developed into a thing of beauty, and the latest models represent fine examples of the possibilities of the application of artistic principles to mechanical design. It is significant, also, that engineers, who have been trained primarily along utilitarian lines, are now, in some engineering colleges at least, being encouraged to spend some time in the study of the principles of art. The public, having noticed with pleasure the application of such principles to many utilitarian objects, has become extremely critical of needlessly unesthetic designs and rightly suspects that such structures can just as well be made attractive as not.

In light of this development, it is not surprising that the railroads, striving to regain passenger traffic, have not only studied how to make the equipment more comfortable and convenient, but are seeking to make the designs more attractive, not merely to the undiscriminating, but satisfactory to the highest canons of art. In a number of instances artists of reputation have been retained to assist in designing passenger cars, and the locomotive itself has by no means been forgotten in this respect. Cars and locomotives, to be sure, are utilitarian objects primarily; they are not statuary or paintings to be displayed in museums. In their design, therefore, their true purpose must not be overlooked. But, disregard of appearance to the point where the result might almost be suspected of a conscious effort toward ugliness, which seemed to be the tendency in the design of some classes of railroad equipment not so many years ago, was bound to produce a reaction. The pendulum can now be allowed to swing a good way in the direction of higher artistic standards without seriously narrowing the range of efficient engineering design.



New Milwaukee Light-Weight, All-Welded Steel Passenger Coach

Milwaukee Develops Unusual Coach Design

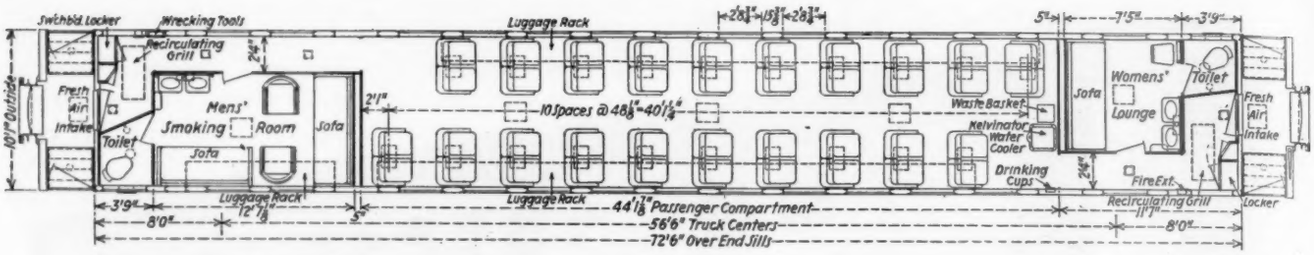
New type of all-welded steel construction saves 35 per cent in weight—Ultra-modern conveniences provided to attract passengers

THE Chicago, Milwaukee, St. Paul & Pacific has recently designed and built the first two units of an order of 52 streamlined, light-weight, all-welded steel passenger coaches which are a distinct departure from ordinary car-building practice and which provide comforts, and indeed luxuries, not heretofore available in coach equipment. With a saving of about 35 per cent in weight over conventional coaches of the same size, the new cars are designed to effect substantial economies in operating cost and also to facilitate maintaining higher train speeds.

Unusually comfortable and attractive interior accommodations, when coupled with reduced coach rates, are expected to stimulate greatly passenger travel in these cars which will be used in both day and night through-train service between Chicago and the Pacific Coast. By an increase in floor space per passenger from 6½ sq. ft. in the conventional coach to 10½ sq. ft., it is anticipated that the actual number of passengers carried per car will be increased, since each passenger is made comfortable in an adjustable, reclining-back seat, whereas, with present equipment, particularly in night service, individual passengers often occupy two double facing seats, if possible, equivalent to four seats per passenger. The ladies' lounge room and the freedom from noise and vibration are among the features which have been particularly well received by the public.

The two cars already in service include rebuilt coach No. 4000, all-welded with the exception of the original riveted steel underframe, and new coach No. 4400, which is all-welded and practically identical in design with the 50 coaches still to be built, except that the latter will be equipped with Commonwealth one-piece bolster and platform steel castings. In addition to the welded design, these cars are notable for four-wheel cast-steel trucks with self-contained brakes and journals mounted in roller bearings; rubber used in the trucks and other parts to eliminate noise; improved vestibule and buffer design; unusually wide automotive-type polished plate-glass windows; a new type of concealed heating and ventilating

View Showing the Interior Finish, Seating and Lighting Arrangement, and Kelvinator Electric Water Cooler in the Rear



Floor Plan of the New Milwaukee Light-Weight, All-Welded Steel Passenger Coach

equipment, with separate ducts adjacent to each seat and temperatures thermostatically controlled; interior metal wall surfaces sprayed with a sound-deadening material; interior finish made of removable cloth-covered panels; asphalt tile floors, in bright colors harmonizing with the tapestry color effects in the interior finish and the upholstery of the seats; an individual light at each seat to supplement ceiling lights; spacious overhead racks for luggage and wraps; a fully-equipped women's lounge and wash-room; and an equally well-appointed men's smoking and wash-room. An electric water cooler is provided to give a constant supply of properly cooled drinking water.

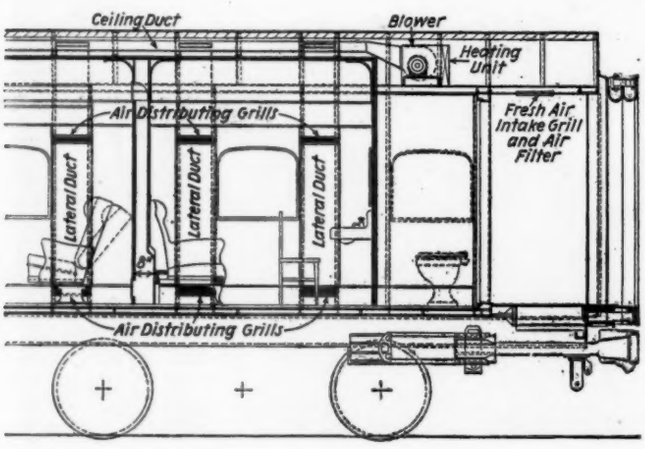
All-Welded Body Construction

The new Milwaukee all-welded steel coach No. 4400 is of conventional size, being 10 ft. wide by 13 ft. high above the rails and 72 ft. 6 in. long over the body end posts, or 80 ft. 8 in. long over the pulling faces of the couplers. It weighs about 96,000 lb. and has a total seating capacity of 54, including 40 in the main compartment, five in the ladies' lounge room and nine in the men's smoking room. This may be compared with a total weight of 146,000 lb. and a total seating capacity of 78 in conventional Milwaukee coaches of the same size, embodying riveted steel construction.

The new car is tubular in shape and streamlined to the extent that it has a turtle-back roof, side sheets rounded inwardly below the windows and no projections such as window sills, belt rails, etc. The entire body of the car is fabricated by electric welding and without the use of rivets. The underframe of sample car No. 4400, including the center sill, bolsters, buffer beams and body end sills, is a built-up design, consisting of structural shapes, plates and sheets joined by welding. The floor pans are made of ⅛-in. sheets, formed with the flanges extending from side sill to side sill. These pressed pans are joined to each other and to the car frame by continuous and, in some places, staggered welds, the latter overlapping. The top floor is made of 1¼-in., 5-ply pine veneer, secured to the pan flanges by Parker-Kalon self-tapping screws. The body and vestibule end frame construction is built up of steel shapes, pressings and sheets, also joined by welding. The side sills consist of 4-in., 8.2-lb., Z-sections, extending from body corner post to body corner post.

The side pans consist of three different sizes, the first being ⅛-in. sheets, extending between the windows from the side sill to the side plate and made with channel-shaped flanges. The second pan is of the same gage material and extends from each window down to the side sill, the top flange of the pan forming the window sill. The third pan is also a ⅛-in. steel pressing, extending from the top of the window to the side plate, with angle-shaped flanges on four sides. The pressings are made with open corners and have holes punched in the flanges for the purpose of firmly bolting them together and squaring the entire superstructure before welding is started. After the superstructure is welded, which includes closing up all the open corners, the bolts are removed. All flanges are continuously welded both inside and out. The window frames are of No. 12 gage steel, pressed to a U-shaped contour, with inwardly projecting flanges to suit the window construction.

The turtle-back roof is formed of 3/16-in. pressed side plates and 1/16-in. roof sheets which are pressed-steel pans flanged on all sides, with open corners subsequently filled in when the flanges are welded. The ridge pole comprises ⅛-in. by 3-in. steel strips welded between the center-pan flanges.



Longitudinal Section Showing the Location of the Blower Fan and the Air-Distributing Ducts

The Truck

The four-wheel truck design was developed with a view to obtaining minimum weight consistent with the required strength. A special high-tensile, cast-steel alloy is used in the Commonwealth one-piece truck frame which is equipped with a swing-motion bolster, the usual forged equalizers, cast-steel spring plank, etc., Stucki inside single-roller side bearings, Illinois 36½-in. rolled-steel wheels and 5-in. by 9-in. journals equipped with Timken roller bearings. The elliptic springs are made of chrome-vanadium steel, by the Railway Steel Spring Company, carbon steel being used for the helical springs. To eliminate noise, rubber inserts are employed at several points in the truck construction to prevent metal parts subject to vibration from coming in direct contact. Ease of truck swiveling is assured by the use of ⅛-in. manganese steel plate and a ¼-in. Oilite plate applied between the body and the truck center plate. All brake rigging and connected parts are applied directly to the truck which is equipped with the American Steel Foundries Simplex unit-cylinder-type clasp brakes, with one 8-in. by 7-in. brake cylinder mounted on each side of the truck frame. One of the trucks is also equipped with the Dayton-Roderwald combined V-belt and universal-type axle-generator drive. A Foote Bros. gear-type drive

is used to operate the generator on the rebuilt car No. 4000.

Aluminum-Foil Insulation in Sample Car

Sample car No. 4400 is completely insulated with a new type of aluminum-foil insulation notable for light weight and low heat conductivity. This material, known as Reynolds' Metallation, is furnished by the Reynolds Metal Company and consists of thin aluminum foil, of about .0005-in. gage, firmly cemented to one or both sides of a tough, heavy, craft paper and applied in a series of layers with ½-in. to ¾-in. air spaces between the respective layers. Insulation pads, comprising three double layers and two single layers of this material, are fabricated frames, made from wood or other material, which fit in the floor and side pans. At curved sections in the car body, such as the lower side and the roof, K-B board, or flexible linoleum, is fitted in the curved pans, and the paper-backed aluminum foil held in place against the linoleum by Gagnier metal clips, such as are used in the automotive industry, for applying panels of interior finish.

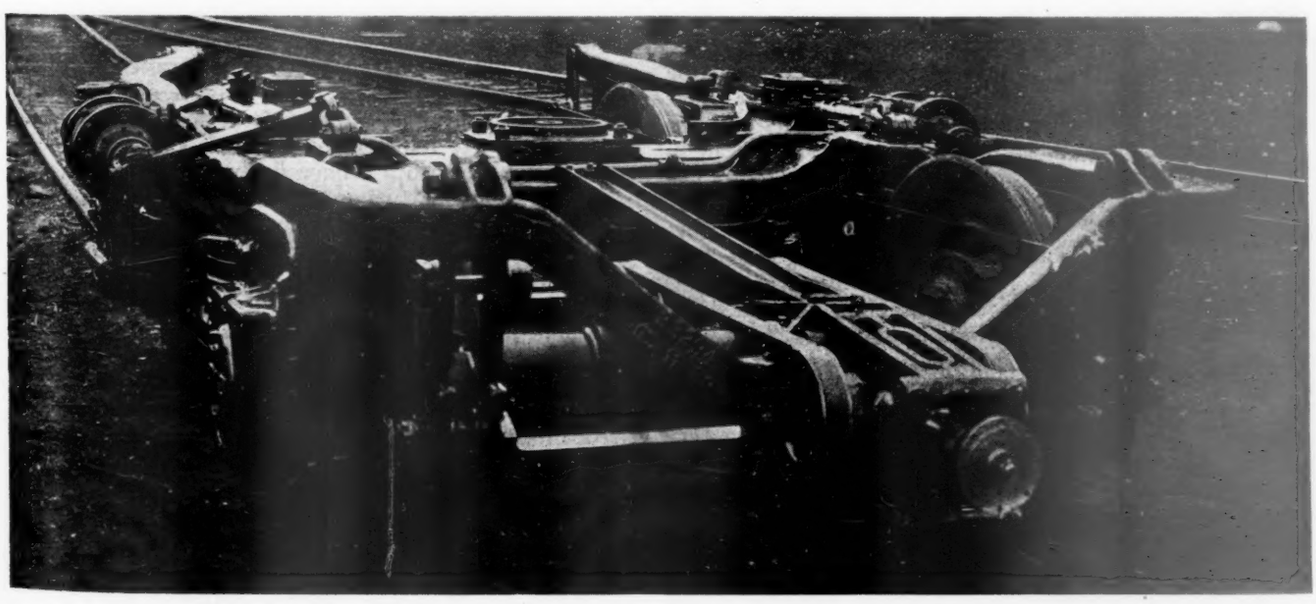
A still further adaptation of automotive practice in the construction of this car is followed in the application of Insulmat, a sound-deadening material which is sprayed to a thickness of about ⅛ in. on all interior wall metal surfaces to dampen vibration and reduce the transmission of external noises to the interior of the car. A single layer of craft paper with aluminum foil on one side is applied directly on this sound-deadening material.

Another feature of interest is the wide vestibule and doors to promote ease of entrance into the car, and a special buffer construction to eliminate noise. The vestibule platform and steps are unusually wide and the steps are equipped with four instead of three treads, all made of a Safety non-slip metal which is also used for the platform floors. The vestibule trap door is made of $^{3}/_{16}$-in. Safety tread plate, properly reinforced and opening under the action of a torsion spring toward the body end of the car. The vestibule doors, shaped to the outside contour of the car, are made of pressed steel with windows of ¼-in. plate glass, having rounded edges, ground and polished. Window regulators, of the Briggs & Stratton type, move the glass in felt-covered rubber guides, which are effectively sealed in the raised position. The diaphragm is of Adams & Westlake, two-section, one-fold, three-ply canvas type. A novel feature of the buffer construction is the face plate support made with a round center stem instead of the usual square type. The long supporting housing, equipped with a wearing sleeve, minimizes wear and can be readily replaced when necessary. This construction assures long service life and reduces noise.

Unusually Comfortable Leather-Upholstered Davenport and Portable Chairs in the Men's Smoking Room

Heating, Ventilation and Lighting

The car is heated and ventilated by means of a system of concealed air ducts, steam pipes, motors and blowers, the system being designed with a view of ultimately applying air-conditioning apparatus. A Sirocco blower unit rated at 1,000 cu. ft. per min. is located under the roof in each end of the car, forcing air through the Vapor copper-tube and fin-type heating or cooling unit, as the case may be, and into a central ceiling duct, from which it is distributed into lateral ducts located behind the pilasters at each seat and finally into the car through Uni-Flow grilles. There are two grilles in each pilaster and, during the winter season, the top grille is closed by means of a damper, thus forcing the hot air to pass

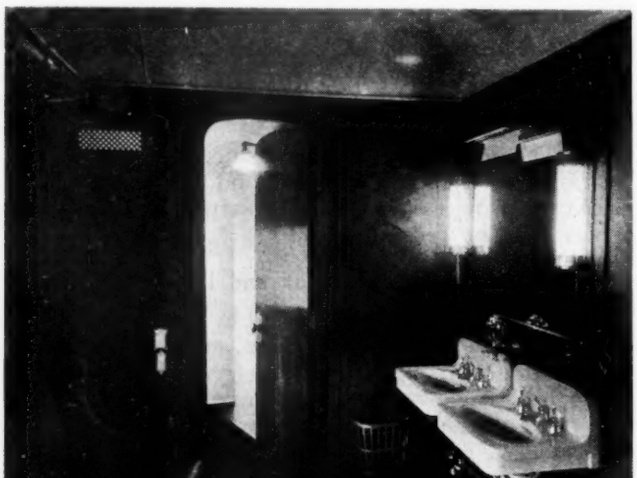


The Commonwealth Four-Wheel Truck Equipped with Timken Roller Bearings, Simplex Clasp Brakes and Dayton-Roderwald V-Belt Generator Drive

to the lower grille at each seat base near the car floor. For summer cooling, the damper in the upper grille will be opened, thus automatically blocking the passage to the lower grille and permitting the cool air to pass into the upper section of the car.

The blowers are of the double-intake type, fresh air being drawn through an air filter and grille located in the ceiling of the vestibule, with a suitable damper arrangement provided to control the proportion of fresh air admitted. Recirculated air is drawn through a second grille in the ceiling of the hall adjacent to the end door. Temperatures in the car are kept within desired limits by means of Vapor thermostat control equipment. For emergency or yard heating, a heating coil is provided in the partition between the main body of the car and the lounge rooms, this heating coil being of sufficient size to heat the air in the car to around 50 or 60 deg. in sub-zero weather.

Electric power for the 32-volt lighting system in the car is provided by means of Safety 5-kw. generator driven by a Dayton-Roderwald V-belt driving unit



The Toilet Facilities in the Men's Smoking Room

mounted on one of the trucks and connected to the generator by a universal joint. This generator furnishes power for the lights and for charging an Exide Ironclad 450-amp.-hr. storage battery, as well as supplying power for the blower motors, water cooler, etc.

The lighting system is designed with a view to giving a light intensity at the reading level of about 8 foot-candles. The ceiling lights are supplemented by an individual bracket light under the luggage rack adjacent to each seat. This gives a uniform distribution and avoids part shadows at the reading level. The same arrangement is used in the two lounges. Special mirror lights are provided in the lounges and a flush ceiling-type light is used in the hallways. All lighting fixtures are of an odd and attractive design in aluminum, furnished by the Loeffelholz Company, Milwaukee, Wis.

Interior Arrangement and Decorative Treatment

The interior decorative treatment and color scheme was developed by the railroad in conjunction with Marshall Field & Company. The application of the inside finish was worked out with a view of using commercialized parts and employing a flexible method of application and removal, as in automotive practice. Instead of the usual woodwork, the interior finish is composed of sectional, removable panels covered with a special cloth furnished by Marshall Field & Company. These panels are readily applied or removed, being held in place by special metal spring clips which are covered by attractive molding strips furnished by the Formica Insulation Company, Chicago. The ceiling of the car, made of 5-ply poplar veneer, is flat at the center, with curved sides and ends instead of the usual arch shape. This veneer is secured to U-shaped pressed-steel ceiling supports by self-tapping screws and the joints are covered with an aluminum molding which conceals all fastenings. The interior color scheme is a light flesh colored ceiling, with brown side walls and a Durite green asphalt tile floor. The aluminum trimmings and lighting fixtures enhance the richness of the interior decorative scheme.

The basket racks, continuous for the length of the main room, are much wider and stronger than usual, so that all small grips and parcels can be stored in them without danger. The windows are single panes of polished plate glass without sash. They are raised and lowered in felt grooves and afford a wider vision than ordinary coach windows. The window openings are oval shaped at the top and square at the bottom. Window shades were furnished by the Texti-Leather Corporation, Toledo, Ohio.

The 20 Hale & Kilburn double rotating adjustable seats in the main room are spaced 48⅛ in. on centers, which is the same as the window spacing. The seat location differs from the conventional arrangement in that the center line of the seat base is opposite the middle of the panel section between the windows, an arrangement which is especially desirable from the viewpoint of passenger comfort since the seats are out of the line of direct radiation from the windows. Each double seat is covered with an attractive figured fabric. It is composed of two comfortable reclining seats, each of which can be tilted backward by means of a small crank embedded in the side of the seat arm. Each seat is, therefore, adjustable to almost any position desired by a passenger.

The men's smoking room is unusually spacious and occupies a space about 12 ft. 8 in. long in one end of the car. It is equipped with two portable chairs, one portable davenport, and one stationary davenport, with a total seating capacity for nine persons. The seats are upholstered in green leather harmonizing with the interior decorative treatment of the room. The ladies' lounge room occupies a length of 7 ft. 4 in. in the other end of the car and is equipped with one stationary sofa and a dressing chair, which provides a total seating capacity in this room for five persons. The upholstery is in green plush, blending with the general color scheme in the room. In each lounge room, there are two Crane porcelain wash-stands, equipped with hot and cold water, a soap dispenser, etc. Adjoining each lounge is a toilet room equipped with a Duner flushing toilet.

The main compartment of the car is equipped with a Kelvinator electric water-cooling cabinet which has a capacity to cool four gallons of water per hour and which is operated by a ¼-hp. 32-volt d.c. electric motor. This water cooler, especially designed for railroad service, is equipped with a chromium faucet and waste receptacle and used in connection with Dixie individual paper cups. The refrigerating medium used is methylchloride, although arrangements can be made to use Freon if desired. Particular attention has been paid to adequate insulation. The container is thoroughly galvanized to prevent corrosion. A relay protects the motor against damage due to low voltage.

The rebuilt Milwaukee coach No. 4000, has the same interior finish and features as the new all-welded coach, No. 4400, but in exterior lines it conforms more nearly to conventional coach design.

The Future of the Railroads*

Attitude of managements and labor seen as two main obstacles

By Joseph B. Eastman
Federal Co-Ordinator of Transportation

PROGNOSTICATING is dangerous business, as no one knows better than those, like you, who have to invest funds in what we please to call "securities." If I shall later prove to have been a false prophet, please do not hold me to account. The immediate future of the railroads is, of course, linked closely with general industrial conditions, but I shall let you do your own prophesying as to those, and there are other general conditions on which I shall venture no guess.

For example, nothing will affect the future of the railroads more vitally than the amount of transportation to be performed. Quite apart from general industrial conditions, that is very hard to forecast. Coal is an illustration. It has been a great factor in railroad traffic; but now we find coal hard pressed by oil and gas moving in pipe lines, and its transportation further curtailed by great central power stations, steam or water, which transmit energy in the form of electricity. The manufacturing of the country, also, has hitherto been concentrated, very largely, in certain sections, and this has required much transportation of both raw materials and finished products. If manufacturing should be spread more widely, as many think it ultimately will be, the amount of necessary transportation might be materially reduced. Again, transportation forecasts in the past have been based upon certain assumptions with respect to the growth of population; but now we find that the rate of growth has fallen off sharply, and it is not unlikely to fall off still more.

Transportation Demand Likely to Grow

I know very little about these matters, but I have much faith that while there will be many changes in the parts making up the sum total, the general transportation demand is more likely to grow than to decline, if standards of living improve as we all hope that they will, although the rate of growth will not be as rapid as in the past. At any rate I shall indulge that assumption. It is not these general conditions which I am going to talk to you about, but rather certain changes which I think I foresee in what may be called the art of railroading.

One large part of my work is to help the railroads survey their present situation. The idea is not that I am a Moses to lead them out of the wilderness, but that I can bring to their aid in such a survey the power and prestige of the federal government. Two central thoughts which lie behind this work I have already suggested to you. One is that with the truck, bus, waterway, pipe line, and air competition which the railroads now have to meet, there is little reason why they should fight among themselves and every reason why they should abandon wasteful competition and by co-ordinating their efforts make the national railroad system more efficient and economical. The other is that to a very considerable extent they may be able to convert their enemies, and particularly the truck and bus, into allies, and in so doing improve the whole transportation mechanism and enable it to give the public better service at lower cost.

I shall try to picture our work by describing some of the objectives which we think we see ahead. I use the adjective "our," because I should be helpless without the experts on my staff, and the railroads are partners in the undertaking. In the field of service, three studies are under way—of the merchandise or package traffic, of the carload freight traffic, and of the passenger traffic. My staff has completed a report on the merchandise traffic and it is now before the railroads. We are gradually hammering into shape reports on the two other forms of traffic.

Studies Under Way

When it comes to carload freight, I cannot now tell you what our conclusions will be, but I can suggest some of the possibilities. Of late the railroads have done much to increase train loads and the speed of trains, but relatively little to decrease total time in transit. Our preliminary figures indicate that between loading at point of origin and unloading at destination, freight cars average more than 80 per cent of their time in origin, destination, or intermediate terminals, and that the cost of these terminal operations absorbs a very large part of the total revenue. Haulage of trains over low-grade rail lines should be by far the most economical form of land transportation, but this advantage can easily be lost through frequent classifications of trains, interchanges, and other terminal movements, and not only do they add greatly to cost but they are the cause of vexatious delay. We also find that the weight of the cars is relatively high, compared with the weight of the lading. We further find that there has been no adequate knowledge of the comparative costs of rail and truck operation, and that because of this lack of knowledge rates have been maintained where they might well have been lowered, other rates have been cut without need, and opportunities have been lost to use the truck as a substitute for rail service where this might have been of advantage.

We expect to have very comprehensive information in regard to the costs of every form of carload freight service, both on the line and in the terminals, and similar information in regard to the costs of motor truck service. We shall concentrate on ways to reduce the extent and cost of terminal operations, because they are by far the greatest handicap to the railroads in present-day competition. Looking into the future, it is not impossible or even improbable that the character of freight equipment will undergo radical and rather speedy changes. We hope to explore these possibilities very thoroughly before we are through, and it may well be, if trucks are converted into auxiliaries and allies, that it will be possible to use them quite generally in substitution for the way-freight train, which is the most costly form of freight service which the railroads now furnish. Nor is it unlikely that we shall find, as in the case of merchandise traffic, opportunities for pooling certain kinds of carload

* From an address before the National Association of Mutual Savings Banks at New York City on May 16, 1934.

traffic to advantage. It may even be that a careful analysis of the extent and cost of classification and other terminal operations incurred in the handling of huge trainloads of freight will show that shorter and faster trains will not only provide better service but be more economical under certain conditions.

Turning to passenger traffic, you are all familiar with the experiments which are being made with stream-lined trains of light-weight construction. Every new type of equipment, whether passenger or freight, will require thorough tests in actual service prior to extensive adoption; but it is most encouraging, after a long period bordering close on stagnation in railroad passenger service, to see these experiments cropping up all over the country. In one form or another—and there are many forms yet to be tried—we anticipate a successful outcome for these experiments. Clearly the way to recoup the passenger traffic of the railroads lies in the direction of cheap, quick, comfortable, frequent service in equipment in which safety is attained by modern engineering science rather than by reliance on mere weight. The weight of equipment carried per passenger has been terrific. We also expect to find opportunities for the advantageous pooling of passenger traffic.

Let me say, however, that while the hand of progress points straight toward the use of light-weight metals for railroad equipment, prevailing prices of those metals are a serious obstacle. I believe it to be entirely possible to reduce those prices very materially. If the present makers are long-headed and wise, they will work to that end. Perhaps other makers will enter the field, who will provide an additional stimulus. I hope that will be the case.

In another branch of our work we are studying the possibilities of reducing the high costs and delays of terminal operations, particularly in the larger traffic centers, through unification or co-ordination of the properties now operated by separate companies. We are finding these possibilities to be large. I anticipate that we shall find, when we complete our studies, that the principle of pooling cars under common ownership ought to be extended very considerably.

Two Obstacles

Before touching on the problems presented by other transportation agencies, I ought to tell you of the two main obstacles to these future possibilities. One is the attitude of the individual railroad managements. They have been brought up in the hard school of competition, with each company out for itself and the devil take the hindermost. Their immediate duty, as they see it, is to look after the interests of their own particular stockholders, without much regard for the interests of the industry as a whole. Take terminal unification as an example. A survey may show that in a large traffic center it is easily possible, physically, to co-ordinate operations without injury to the service and save many thousands of dollars annually. One railroad serving that traffic center however, may feel that it has a strategic advantage over other railroads under existing conditions, and for that reason it may refuse to go along with the new program. This is a kind of difficulty which is likely to be encountered all along the line in efforts at co-ordination. It remains to be seen whether it can be surmounted. I shall watch with interest the reaction of the railroads to our proposed plans for handling merchandise traffic, for it will show whether they are willing to go the full length in co-operation or prefer to temporize in the old, accustomed way. The choice, as I see it, is between short-range and long-range advantage, and I am not yet sure of the vision of the managements. Perhaps you investors in their securities can help them to make a wise choice.

The other obstacle will be supplied by labor, and it is a very serious one. Economies in railroad operation are bound, in large part, to be labor-saving economies. The present emergency act contains a provision which goes far to prevent such economies from co-ordination, but that act expires on June 16, 1935. The labor-protection provisions in the present act have not been put to the test in the courts. Whether they would survive such a test I do not know. Assuming, however, that they could be made a valid part of the permanent law in their present form, I am hopeful that this will not be done.

This hope rests on two things. In the first place, the changes in methods of operation and service toward which we are aiming are not mere ways of shaving expense. The main purpose is to regain and develop business. The choice is between a live and growing railroad industry and one which has passed its prime and is on its way to a decrepit old age. The employees are intelligent, and as times improve I have faith that they will not err in this choice.

But in order that their vision may not be clouded, they must be given reasonable protection. We are working on that problem. It is cruel and inhuman to discard faithful employees like worn-out crossties. The shocks of sudden economic changes can at least be cushioned. The savings can be shared between capital and labor. Our study is going deeply into the subjects of retirement annuities for super-annuated employees, unemployment benefits, and dismissal wages. We hope to work out a program which will afford reasonable protection to labor without stifling progress.

I turn now from the railroads to the other transportation agencies. I have no authority over them beyond the duty to recommend to the President and Congress further legislation for the improvement of transportation conditions generally. I am sure that you have heard much about the subsidies which are supposed to be given, directly or indirectly, to the water carriers and the motor carriers and the air carriers, through the waterways or the highways which are provided for their use out of the public treasury, or in other ways. Of course there were such things as land grants to the railroads in the old days. We are trying to get to the bottom of this subsidy question, and are finding it no easy job. I expect to be able to report on this matter at a comparatively early date, to give the facts as nearly as we can ascertain them, and to recommend what, if anything, should be done about them.

I have, however, already submitted a report in which I have recommended that motor and water carriers, along with the railroads, be subjected to federal regulation by the Interstate Commerce Commission. Most of the discussion is motivated by special interests, and is to be taken with a liberal seasoning of salt. I see no escape from the conclusion that the national transportation system cannot wisely be left half regulated and half free. If I read the lessons of history and experience at all correctly, nothing but chaos can be expected from a policy of no regulation. The tendency in all industry, not only in this country but throughout the world, is definitely away from free and unrestrained competition. If we are to have regulation, I see no escape from the conclusion that it must be centered in a single body. If a single body is to be entrusted with the task, my nominee is the Interstate Commerce Commission. If there is a better body to undertake this work, I do not know what it is.

As one who has been a part of public regulation for 20 years, I know something of its faults and the pits

into which it is likely to fall. If the commission is given this new work, it will find itself with a most difficult job and there will be plenty of criticism. Some say it will be an impossible job. I think they are wrong, but I suggest that the proof of the pudding is in the eating thereof and not in the chewing of the string—or rag. The best bet for the country is to put this matter to the test.

A Warning Against Competitive Rate-Cutting

At this point I cannot forbear brief comment on the rate situation. There is much talk to the effect that the railroads should be allowed greater flexibility in making rates to meet competition, including market competition. There is talk against distance rates. One would think that the commission had forced such rates down the throats of unwilling railroads and industry. The fact is that I can point to case after case where all parties, railroads and shippers alike, were agreed that distance rates were the solution, and many more where the majority were of that opinion. The fact is, also, that the railroads have liberal opportunity to cut rates to meet competition, and they are doing it every day. In my judgment they are given too free a hand, for the excuse of truck or water competition is being badly overworked and the real reason is often the pressure of big shippers and the desire to filch traffic from other railroads. Whether it be direct or market competition, the delusion seems to prevail that the competitors will remain quiescent. Of course they will not, and the ultimate result is bound to be a general lowering of all carrier revenue. Competition is now so widespread and general that this theory of competitive rate-making can, as I see it, end only in disaster for all concerned.

Government Ownership

I have no desire to assume the role of propagandist for public ownership and operation, or to have such a policy adopted until the people of the United States either want it or believe it to be necessary. I have felt that they should be thinking about it, for it may prove to be necessary, and in that event it is highly desirable that the country should be prepared to undertake it in the best possible way and with all possible safeguards. Personally, I have been a rather close observer of private operation under public regulation for nearly 30 years, and I started with a definite disbelief in public ownership and operation. I am not of that mind now, for reasons which I have undertaken to give on other occasions. Recently I have heard or read at least three separate discussions of the subject in each of which it was urged that the federal government should by formal act or resolution of Congress declare its opposition to public ownership or operation of the railroads and its commitment to the policy of private ownership and operation. It is urged that this be done for the reassurance and protection of investors in railroad securities. This is a fair sample of the fatuous if not disingenuous character of much of the ordinary discussion of this subject. There are distinct dangers in public ownership and operation against which safeguards ought to be provided, but the fact is that nobody has less to fear than the holders of railroad securities.

Coupled with this plea for a statement of governmental policy on the subject of public ownership and operation, the suggestion has been offered that the legislation should contain something in the nature of a guaranty that rates will be maintained at a level which will assure a fair return on the investment in the railroad properties. Let me point out that there can be no

(*Continued on page 738*)

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended May 5 totalled 604,205 cars, a decrease of 4,449 cars as compared with the preceding week but an increase of 77,087 cars as compared with the corresponding week of last year. Loading of merchandise, coke, and ore, showed increases both as compared with the preceding week and as compared with last year, while live stock showed reductions under the figures for the preceding week and last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, May 5, 1934

Districts	1934	1933	1932
Eastern	146,667	119,472	127,208
Allegheny	122,235	96,838	106,673
Pocahontas	43,758	33,480	32,925
Southern	87,748	82,113	80,449
Northwestern	73,934	67,299	61,457
Central Western	82,381	79,269	80,926
Southwestern	47,482	48,647	44,313
Total Western Districts	203,797	195,215	186,696
Total All Roads	604,205	527,118	533,951
Commodities			
Grain and Grain Products	27,084	39,549	28,578
Live Stock	16,750	17,934	18,577
Coal	111,356	77,658	80,394
Coke	6,853	3,508	3,225
Forest Products	24,942	19,419	19,422
Ore	9,851	5,768	2,194
Mdse. L. C. L.	166,426	164,633	185,127
Miscellaneous	240,943	198,649	196,434
May 5	604,205	527,118	533,951
April 28	608,654	538,809	554,197
April 21	589,453	496,512	562,527
April 14	578,837	498,182	566,826
April 7	557,887	492,061	545,623
Cumulative Total, 18 Weeks	10,484,684	8,801,977	10,098,914

Car Loading in Canada

Car loadings in Canada for the week ended May 5 totalled 43,453, an increase over the previous week's total of 292 cars and over the total for the corresponding week in 1933 of 6,044 cars, according to the compilation of the Dominion Bureau of Statistics. They were also 2,226 cars, or 5.4 per cent, above the 1932 loadings.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 5, 1934	43,453	25,414
Apr. 28, 1934	43,161	25,093
Apr. 21, 1934	44,505	24,706
May 6, 1933	37,409	17,909
Cumulative Totals for Canada:		
May 5, 1934	743,199	423,828
May 6, 1933	600,919	310,235
May 7, 1932	742,940	388,925

BY INCREASING FACILITIES FOR COMFORT in its third class passenger cars the German National Railroad Company has taken a step which should mitigate highway competition for passenger traffic, according to an article in a recent issue of the Railway Gazette (London). When the old four class passenger rate system was abolished on the German railways a few years ago the resultant arrangement was to have second and third class accommodation only in the majority of trains. Thus travelers had a choice of either upholstered or non-upholstered seats. The plan now is gradually to replace with upholstered seats the present plain wooden seats which have been the usual accommodations of third class German railway cars.

Survey Throws Spot Light on Second-Hand Material

Clues to differences in maintenance costs and supply-department performance furnished by further investigations of stores expense

WHEN, in comparative statements, one road's inventory looks better or worse than another's, or when one road's cost of maintaining equipment per car-mile or locomotive-mile is higher or lower than another's, the answer may not be found only in operating conditions, volume of material handled, or performance; and when one road has a more or less favorable looking stores expense than another, it may not arise alone from more economical material handling or even because one road does or does not include certain costs in its figures. The reason may lie instead in the value which is put on the scrap and the second-hand materials when they are released by users, the value which is put on these materials when storekeepers get them and the price applied when they are "sold" back to the consumer—especially when, as at present, the amount of such material may be equal to 20 per cent or more of all the materials used.

That is what further investigations which the *Railway Age* has made of the little explored and somewhat delicate subject of stores expense indicate. The investigation supplements a previous review* of stores expense, in which the items of cost were enumerated, and embraces reports of over 30 railroads which co-operated in the study to develop the facts about used materials. While not complete, the study shows wide differences in railway accounting as applied to materials,—differences which are said to promote misleading comparisons and to encourage controversies between railroads and different branches of service on the same railroads regarding material costs.

Questions were directed to determine (1) the value relative to current prices at which scrap is credited to roadway and shop forces and carried in railway inventories; (2) the value roadway and shop forces get for the second-hand and repairable materials returned to stock, and the price charged for the used material received from stock; (3) the proportionate amount of used and shop manufactured material in stock balances; and (4) the effect on prevailing material-handling costs of charging used materials to working forces at salvage cost and also at the cost of newly-purchased materials.

Scrap Values

Scrap values are not ordinarily considered in discussions of stores expense but invite attention when the broader questions of material costs are involved. The volume of scrap released from maintenance work, as well as from destroyed cars and locomotives, is large enough to affect inventory values and the credits allowed roadway and equipment departments for scrap incident to its sale figure prominently in the net costs of their operations and their performance. Low values favor reclamation forces where profits are measured by the difference between the book values of scrap used in manufacturing operations and the cost of new materials, but where maintenance work is budgeted or controlled by prescribed authorizations of expense, the forces in charge of each shop or program want the maximum credit for the scrap they release. The same is true of stores whose turnover of stock is based on book values of material handled, including scrap. Scrap values also figure where materials discarded as scrap are reconditioned.

While the theory of any accounting is that credits and debits are ultimately equalized, it does not follow necessarily that this equalization is distributed accurately. One division of work may benefit at the expense of another, even where the accounting is completed promptly, while delayed accounting may cause difficulties, as where certain credits are allowed for scrap and postponed sales bring losses which are debited against operating expenses too late to change previous performance ratings and when work under way cannot easily absorb the debit.

Scrap practices are more uniform than methods of accounting for second-hand material, but show considerable variation. On the Delaware, Lackawanna & Western, the Norfolk & Western, and the Wheeling & Lake Erie, disregarding slight variations, scrap is held in a separate account and credit withheld until sold, when producers receive the sale price. Credits on the Burlington-Rock Island, the St. Louis-San Francisco and the Union Pacific are allowed at a flat price, which is somewhat below the average market price to avoid charges to operating expenses when the scrap is sold. Pere Marquette practice is to allow credit for scrap as received at an average annual price for each class of scrap, except where unusually large shipments and wide fluctuations in market prices advise special action. Allowances at current market prices are reported by the Atchison, Topeka & Santa Fe, the Chicago & Eastern Illinois, the Chicago & North Western, the Delaware & Hudson, the Chicago & Western Indiana, the Canadian National Railways and the Elgin, Joliet & Eastern. On other roads, allowances range from 50 to 90 per cent of the probable sale price to avoid reverse charges later on and to allow for the cost of handling. The Minneapolis, St. Paul & Sault Ste. Marie uses prices shown on the latest sales orders. The Baltimore & Ohio, the Wabash and the Pennsylvania use arbitrary prices for a few different classes of scrap (of which there are three on the Pennsylvania—scrap rail, other ferrous material and non-ferrous material), with provisions for additional credits monthly in harmony with sales. In most instances, the scrap is taken into the stock balance as received.

Second-Hand Material

The widest differences occur with second-hand materials, of which there are roughly three grades, as follows: Materials released in serviceable condition by

* *Railway Age*, September 3, 1933, and September 23.

using departments; second-hand materials requiring repair; and materials reclaimed from scrap. On some roads, the amount of such materials exceeds one-fifth of all the materials issued from stock. Where good material is found in scrap or material is reclaimed from scrap at reclamation plants operated by stores departments, the usual practice is to receive the materials into the stock balance and reissue it at the price of new material, the cost of repairs being pooled and charged at intervals to maintenance of way and equipment expenses. With other used materials, practice ranges from handling all of it at no value to that of handling all of it at the price of new materials, with special valuations provided by some roads for special items.

The Santa Fe, the North Western, the Soo and the Frisco are among roads using new prices indiscriminately. In general, the price at which such materials are issued is uniformly 75 per cent on the B.-R. I., 60 per cent on the C. & E. I., 50 per cent on the New Haven and the C. & W. I. Burlington stores receive good and repairable material at 80 per cent of new value and reissue it at full value, excepting rail, frogs and track materials, which are handled at 60 per cent. New value is the rule on the Wabash, except for lumber, relay rail, wheels, tires, axles and brake shoes, which are handled for the most part at 50 per cent of new value. After allowing full value for serviceable material and scrap value for repairable material, such materials are reissued at full value on the Penna., with the exception that 44 varieties of car wheels and 20 items of track material are each handled at special prices in accounting for both credits and issues, as follows:

Wheels, mounted—44 items ranging from $37 to $140.00	
Rails	18.00 per gross ton
Frogs, all kinds	12.00 each
Guard rails	3.00 each
Switches, all kinds, complete	12.00 each
Switch points, all kinds	5.00 each
Track and signal bridges	10.00 per net ton
Joint bars, all kinds and weights	.60 per pair
Joint bars, reformed, all kinds and weights	.75 per pair
Compromise joints	1.25 per pair
Tie plates, all kinds	.10 each
Rail anchors, all kinds	.05 each
Piling, lengths of 30 ft. or over	.05 per lin. ft.
Heavy timbers, 7 ft. or over	20.00 per 1,000 ft. b. m.
Telegraph poles, 20 ft. or over	.05 per lin. ft.
Cross ties	.50 each

The schedule of prices used for the Penna. is the most detailed of all roads studied. Except for relay rail, which is handled at a flat price, second-hand material on the Chesapeake & Ohio is handled at 50 per cent of original value, repairs being charged direct to operating expenses. The value for both receiving and reissuing used material is 50 per cent on the E. J. & E., excepting eight classes of roadway and equipment materials, which are handled at separate values, ranging from 20 to 70 per cent, although air-brake fittings are valued for credit and reissued at full value. The values are:

	Per Cent of New Value
Rail, relay	53.5
Cross ties, usable	32.4
Switch ties, usable	45.1
Lumber	20.0
Switch material, usable or repairable	35.0
Track fastenings	55.0
Car wheels	50.0
Steel car wheels	70.0
Steel car axles	60.0
Air-brake hose and fittings	100.0

On the D. L. & W., used materials are restocked at 50 per cent and reissued at approximately 60 per cent, except for bolts, nuts and fittings, which are handled at full value. Repairable material is received at scrap value; and serviceable material reissued at 50 per cent value on the Western Maryland, excepting rail which is accounted for at 60 per cent, while the Southern Pacific receives and issues all used materials, excepting machinery, at 50 per cent of value; and the Western Pacific also follows the 50-per cent rule, excepting a few items of track material.

Some Materials Free

By contrast, materials are received and issued on the B. & O. at their scrap value, plus the cost of repairs, excepting caboose and similar train supplies, which are handled at full price. Various prices, based on remaining service life of the materials, are used on the P. M., and a value of 25 per cent is employed on the Chicago Great Western, except for track material. On the other hand, the C. N. R., the N. Y. C. and the N. & W. handle much second-hand material free of any accounting.

Material manufactured in company shops for stock is uniformly handled at the cost of material and labor plus variable additions for overhead expenses, depending on the prevailing policies on the roads and the conditions under which the material is made.

These differences represent differences in opinion not so much as to the theoretically correct procedure as to the best settlement of conflicting points of view. One view is that stock balances should represent realizable assets for financing, and it is also true that stores expense is often a factor in rate cases. Again, stores forces are opposed to complications in handling and accounting for materials and, while favoring book values that will keep total inventories as low as possible, are also likely to show a preference, if at all, for prices which promote the best departmental showing. The greater the book value of the stock handled, the smaller is the cost of handling per given amount of material.

There is also the view of consumers that credits should be as large as possible and unit costs of material as small as possible for given work, in keeping with limitations placed on allotments of money for programs and the increasing extent to which unit costs of doing work are being resorted to as measures of economy. The prices allowed for material released and material applied are important on large jobs, unless values for released materials and applied materials in each instance balance. The question of service life is also urged by operating forces, the position being taken that prices should correspond to what material is actually worth.

Effects on Expenses Vary

The effect on the cost of handling material of different accounting methods depends on the practices followed in each case and the volume of used material involved. Estimates by different roads range from negligible values to an increase of more than 35 per cent, when issues are based on scrap value or recovery costs, and to more than 60 per cent where issues are priced at the full value of new material. Charges for stores expense of 10 per cent or more are not unusual and the average for the country exceeds 8 per cent, or $8 on each $100 of material issued. With a 20-per cent stock of used materials, an 8-per cent rate on a railroad charging full price for used material might be increased as much as $2 per $100 by adopting a scrap or recovery value for old material, while the same rate of 8 per cent on a railroad already using a low value for old material might be reduced as much as $2 per $100 of material by pricing all used material at full value.

The accompanying table shows actual comparisons between the costs of specific items of used material to users when issued at the price of new material and

when issued at scrap values, based on $2 per net ton, with a uniform rate of 8 per cent for stores expense.

	Price New	8 Per Cent	Price S. H.	8 Per Cent
8½-in. C. C. compressor	$382.20	$30.57	$2.62	$0.21
Triple valves	25.20	2.02	.15	.01
Journal jacks	22.72	1.82	.05	.004
Steel car axles	22.40	1.79	.55	.04
Locomotive driving tires, 70 in.	99.73	7.98	1.40	.11
Cast car wheels, 750 lb.	13.15	1.05	5.06	.40
Steel car wheels, 36 in.	47.29	3.78	.58	.05
Brake beams, No. 2 Creco	4.95	.40	.09	.007
Locomotive boiler tubes, 2¼ in. 22 ft. 2 in.	4.39	.35	.06	.005
Locomotive cylinders, A-3849	744.41	59.55	10.20	.82
Main rods, 9000-Class	224.08	17.93	1.20	.10
Spring rail frogs, 110 lb.	124.71	9.98	.58	.05
Ins. split switches, 110 lb.	155.86	12.47	.92	.07
Train markers	9.24	.74	none	none
Switch lamps	8.51	.68	none	none

With the increasing extent to which comparisons are being resorted by railroads in the furtherance of progress and economical operation, differences in practice shown by these figures and by facts brought out in previous discussions are deplored, opinion generally favoring a greater degree of uniformity. Discussion has been most active among supply forces, but no perceptible progress appears to have been made either in revising practices or reconciling different viewpoints. One point of view favors abandoning efforts to distribute stores expenses to operating expenses, establishing, instead, a separate account. As one general storekeeper has recently stated:

"There never was and is not now any sound reason for distributing store expense through the accounts as is done on practically all the railroads in the country. Stores expense is a very small amount of the expense undertaken by a railroad in operating. There is no more reason for the elaboration of this account than there would be for attempting a similar elaboration in expenses of the auditing, legal, traffic or executive departments, which are all charged to some primary operating account in bulk. This is a marked departure from the accepted practice, but it is worthy of consideration. The store department is not gaged by the size of its stores expense, and the application of methods, different on every railroad, does not help in any way to increase the efficiency or economy of the department."

This view, however, is not widely held, opinion generally emphasizing that stores expenses are an essential element of the cost of materials, and the tendency appearing more largely to favor accounting which will not only be uniform for comparative purposes but will most accurately express true material costs. The reports of the methods of accounting for scrap and second-hand materials on railroads at the present time and their estimated effect on stores expenses are given as follows:

Atchison, Topeka & Santa Fe

Scrap credited to producers at market value. Second-hand and repaired material from scrap or other sources taken into stock and distributed as new material. Only where use has definitely reduced life of certain commodities, such as boilers and other heavy materials, are special prices used, stores branding efforts to distinguish between used and new materials as unnecessary refinement and aiming to eliminate special prices as far as possible. Amount of second-hand material not reported. Reclaimed material 10 per cent of total. Opposite pricing would increase stores expense 3 per cent.

Baltimore & Ohio

Scrap credited at fixed prices, periodically adjusted to prevailing market prices. Good or repairable material, except train supplies, are credited at scrap value. Second-hand material issued at scrap value. Repaired material issued at scrap value plus repairs. All second-hand and reclaimed material is carried in station scrap account and credited to same when issued. Supplies removed from engines, coaches and cabooses are credited at new value and reissued at new value to insure uniform charges to operating expenses on such articles.

Canadian National

Scrap credits kept in line with current market values. Scrap rail received at nominal value of $8 per ton on Central and Atlantic regions and $10 on Western region and Grand Trunk Western. Other released rail handled through accounts at uniform price of $25 per ton to all lines. Second-hand timber, machinery and other heavy materials in serviceable condition received in stock and reissued at 50 per cent of original value. Small articles reclaimable from dismantled cars and locomotives without other expense than sorting are received in stock and reissued at no value. At inventory date such materials are priced at 50 per cent of original value for inventory purposes only. Repaired materials are subject to stores expense only for materials used in making repairs. Stores expense not assessed against materials made on shop orders for immediate application in shop but only to shop-made materials for stock. Special arrangements made where excessive fluctuations in credits and charges would otherwise occur. No data on proportion of used materials in stock.

Central of Georgia

Scrap credited at approximately 75 per cent of market value. Most second-hand material credited to producers and returned to stock at 65 per cent of new value; lumber at 50 per cent. Scrap value allowed some roadway items. Nominal price comparable to value new for second-hand rail and 15 cents for used tie plates. Cost of reclaiming most material is charged to account for which material will be used. Per cent of second-hand material in stock, 23. Per cent of shop-made material, 4. Market prices would reduce stores expense 10 or 15 per cent.

Chesapeake & Ohio

Scrap credited at average prices computed from previous month's scrap scales. Used material in serviceable or repairable condition credited to equipment at 50 per cent of new value, taken into stock at time of removal and reissued at 50 per cent of new value. Cost of repairs, both labor and material, is charged to proper operating account. All material so handled except rail suitable for relaying which is credited and reissued at fixed price of $25 per ton. Approximately 25 per cent of issues from stock are second-hand and reclaimable materials, principally wheels and axles, air-brake materials and journal-box packing from dismantled equipment, while approximately 10 per cent of stock is material manufactured in company shops. Distributing all used material at recovery cost would increase stores expense $1.60 per $100 of material issued, while market pricing would reduce it $2.30.

Chicago & Eastern Illinois

Scrap credited at prevailing market price. Second-hand and repaired material taken into stock and charged to users at 60 per cent of market price. Amount of used material in stock estimated between 15 and 25 per cent; shop-manufactured material, 5 per cent. Salvage values would increase, while market values would reduce stores expense.

Chicago & North Western

Scrap credited at current market value. Second-hand and repaired material charged to stock and reissued at 60 per cent of market value if good "live" material, except serviceable rail, switch points, frogs and fastenings which are reissued at 80 per cent of their value new, and second-hand cast freight car wheels and axles which are handled at appraised value.

Chicago & Western Indiana

Scrap credited at current market price. Second-hand and repaired material charged to stock and reissued at 60 per cent of value new plus cost of reclamation. No distinction made between bridge and building material, rail, locomotive and car material or machinery. Amount of used material in stock not reported.

Chicago, Burlington & Quincy

Scrap credit allowed as near market value as practicable to keep adjustments low. Second-hand and repairable material credited to producers and taken into stock at 80 per cent of new value, based on average cost of labor and material to repair usual run of material. Usable and repaired material credited to shippers and reissued at new value excepting rail, frogs, angle bars and other track material which is handled at 60 per cent of new value. Shop-made material equal 10 per cent of stock. Pricing used stock at recovery value would increase unit handling charge.

Chicago Great Western

Scrap credited producers at 75 per cent of market value. Serviceable second-hand track material taken into stock and reissued at 60 per cent of value new. Other material accepted at 25 per

cent of value new and issued at 25 per cent of value new plus cost of repairs. Track material considered scrap unless usable without repairs. No data on quantity of used material in stock or effect of opposite pricing on stores expense.

Delaware & Hudson

Scrap credited producers at current sales price. Second-hand material in good condition credited users and reissued from stock at 65 per cent of new value. Material requiring repairs taken into stock at no value and issued at cost of repairs or reclamation. Used material 3 per cent of issues, shop-made material 2 per cent of issues. Pricing all issues at "new" value would increase stores expense 5 per cent.

Delaware, Lackawanna & Western

Scrap carried in stock balance through system of monthly inventories, using current average price; operating expenses credited with actual market price when sold. All second-hand and repaired material for locomotives and cars is stocked and reissued at 50 per cent of price new, excepting bolts, nuts, pipe fittings and a few other items which are credited to users and reissued at full value to avoid separate handling. Second-hand material, exclusive of track materials, amounts to 7 per cent and shop-made items 10 to 12 per cent, of issues from stock. Effect of different pricing on stores expense negligible.

Elgin, Joliet & Eastern

Scrap received at average prices prevailing during month. Relay rail received and reissued at 53.5 per cent of value new; usable cross ties, 31.4 per cent; usable switch ties, 45.1 per cent; lumber, 20 per cent; usable and repairable frog and switch material, 35 per cent; track fastenings, 55.5 per cent; cast wheels, 50 per cent; steel car wheels, 70 per cent; steel car axles, 60 per cent; air-brake hose and fittings, 100 per cent; air-brake valves, 100 per cent; all other usable car and locomotive material, 50 per cent. Ratio of total book value of used material in stock to new material about 12.5 per cent; shop-made material, less than 0.5 per cent. Effect on stores expense of pricing used material at value new, 2 per cent.

Great Northern

Scrap credited to proper accounts and taken into stock balance at values which are changed as often as necessary to keep values as near as practicable to current market prices. Track material and fastenings stocked and issued at 75 per cent of value new. Other second-hand and repairable material handled through accounts at 50 per cent of full value. No data on proportion of used material to total, or effect of different pricing on stores expense.

Kansas City Southern

All scrap credited to producers at market value on first of each month. Second-hand material generally stocked and reissued at scrap value. Track tools, switch lamps and few similar items restocked at new value and reissued new value plus cost of repairs. Locomotive springs, superheater units, freight-car brake beams, restocked and reissued at cost of repairs only. Second-hand wheels handled at scrap values fixed by exchange contracts and reissued at same value plus cost of remounting. Second-hand axles remain in mechanical stock till scrapped. Second-hand and shop-made materials equal 3 per cent of stock. Effect of opposite pricing on stores expense 0.5 to 0.75 per cent.

Lehigh & Hudson River

Scrap credited to producers as near to market prices as possible. Used materials restocked at 25 to 75 per cent of value new, depending on condition and demand, and reissued at same price plus cost of repairs. Used material equals 15 per cent and shop-made materials less than 1 per cent of stock. Effect of different pricing on stores expense negligible.

Lehigh & New England

Scrap credited to producers and taken into stock balance at last sale price, and adjustment, if any, made when sale made. Second-hand material in serviceable condition handled through accounts at 60 per cent value new. Repairable materials received at scrap value, reissued as new material, and operating accounts credited with difference between recovery cost and value new. Arbitrary value for rail. No data on proportion of used material in stock or effect of different pricing on stores expense.

Minneapolis & St. Louis

Scrap credited at latest market price shown in last sales order. Second-hand rail, lumber, wheels and axles received and reissued at fixed prices. Other used materials received at new value less cost of reclaiming and repairing and reissued at new value. No data on proportion of used material in stock or effect of different pricing.

New York, New Haven & Hartford

Scrap valued at average month's sale price, considering market conditions. Used materials received and reissued at approximately 50 per cent of value new. No data on proportion of used material in stock or effect of different pricing on stores expense.

Norfolk & Western

Scrap not taken into stock balance. Producers credited with full value when sold and stock account cleared each month. Second-hand materials not received in stock account, but handled and policed by stores department and reissued to users free of cost. Repaired or reclaimed materials received into stock and reissued at value of new materials, repairs being made by shops, and producers credited with difference between production cost and new value. No report on proportion of used and shop-made material in stock, but 35 per cent reduction of stores expense reported as estimated effect of pricing used and shop-made materials at recovery cost and 60 per cent reduction estimated by pricing issues at value new.

Pennsylvania

Scrap credited to producers and received in stock account at fixed price of $7 per net ton for rail, $6.75 per net ton for other ferrous scrap and $.025 per lb. for non-ferrous scrap, with additional credit given monthly for difference between original credit and actual sales. Fixed prices used for receiving and issuing special items of second-hand serviceable materials ranging from $37 to $140 each for 44 items of mounted wheels, $18 per gross ton for rail, $12 each for frogs of all kinds, $3 each for ground rails, $12 for all kinds of complete switches, $5 each for all kinds of switch points, $10 per net ton for track and signal bridges, $.60 per pair for joint bars of all kinds and weights, $.75 per pair for reformed joint bars of all kinds and weights, $1.25 per pair for compromise joints, $.10 each for tie plates of all kinds, $.05 each for rail anchors of all kinds, $.05 per lin. ft. for piling of 30 ft. or more, $20 per 1,000 ft. b. m. for heavy timbers of 7 ft, or more, $.05 per lin. ft. for telegraph poles of 20 ft. or more, and $.50 each for cross ties. Other usable material received in stock and reissued at latest new price. Repairable material received at scrap value and reissued at latest new price when repaired, with proper adjustment to operating expenses or pools No data on proportion of used material in stock or effect of different pricing on stores expense.

Pere Marquette

Value of scrap developed annually from sales of classified scrap, and average price used from one annual inventory to another, except where value of specific classes adjusted with consistent departure of market value from average as required by large volume and turnover. Used material requiring no repairs received in stock and reissued at varying ratios to value new, depending on estimated service life. Repairable material received at scrap value and reissued at scrap value plus cost of repair. No data on proportion of used and shop-made material in stock or probable effect on stores expense of changing pricing practice.

St. Louis-San Francisco

Scrap and reclamation account operated separately from material and supplies account. Miscellaneous scrap and second-hand material, excluding rail, credited to operating accounts and charged to scrap account at current market price when received at reclamation plant, and all repairs covered by shop order. Average cost of repairing various items of material computed monthly and difference between reclaimed cost and value new credited in same way as scrap is received. Reclaimed material received in stock account and reissued at price of new material. No data on proportion of used material in stock but effect of pricing at recovery cost would be to increase stores expense materially.

Southern Pacific-Pacific System

Scrap received at approximately current market value. Used materials received at 50 per cent of cost of new materials and reissued at same price, cost of repairs being charged to operating accounts benefited, excepting only machinery which is handled at appraised value. Stores expense uniformly applied to all material excepting second-hand rail which is charged actual cost of handling. No data on proportion of used material in stock. Prevailing pricing 30 per cent greater than recovery cost. Prob-

able effect on stores expense of using values of new material given as less than 0.5 per cent.

Union Pacific

Iron and steel scrap received at uniform price, now $4 per ton, which is somewhat below current market price to avoid having to make debit charge to operating expenses when sold. All used materials released from service are received into stock at scrap value and reissued with or without repairs at scrap value, the material and supply account receiving no credit for such materials. Shop-made materials are carried in stock at prices approximately or slightly less than new material. No data on proportion of used material in stock, but estimated that stores expenses per $100 of material issued would be reduced 25 per cent by pricing used material at cost of new material.

Wabash

Scrap credited producers at arbitrary price ranging from 50 to 75 per cent of current market price, and producers utlimately credited with sale price less cost of handling. Relay rail handled through stores at 60 per cent of value new. Lumber, pile butts, piling and timber and grain doors received in stock and reissued at 50 per cent of value new, less cost of reclaiming and transportation. Loose wheels, brake shoes, axles, flues and tires received and reissued at 50 per cent of value new, less cost of reconditioning. Mounted wheels, when released because of cut journals, bad treads, etc., are credited at prices fixed for old wheels and axles. Other items received and reissued at 100 per cent of value new, less cost of repair or reclamation. Ratio of used material in stock at present valuations about 20 per cent; shop-made materials, about 3 per cent.

Western Maryland

Scrap received at approximately 90 per cent of market value and credited or debit adjustment made with producing department when scrap is sold. Serviceable second-hand material received in stock and reissued at 50 per cent of value new. Repairable material received at scrap value and reissued at approximately 77 per cent of new material to cover cost of repairs. Used material equals about 5 per cent of stock, and shop-made material about 12 per cent. Estimated that stores expense would be increased $1.16 per $100 of material issued by handling used material at value new.

Western Pacific

Scrap received and credited at values as close to current market price as possible. Arbitrary values used for receiving and reissuing second-hand rail, angle bars, tie plates and lumber. Other released materials received and reissued at 50 per cent of value new, less repairs. Amount of used material in stock at existing valuation about 8 per cent. Effect of pricing used material at original value would reduce stores expense per $100 of material issued.

Wheeling & Lake Erie

Scrap account kept separate from material stock balance. Credit allowed producers on current sales each month and account cleared each month. Second-hand rail, bridges and machinery are handled through stock account at appraised values. Other materials reclaimed in condition to be used for original purpose are credited to releasing department and reissued from stock at value new. Eliminating remounting of wheels and axles and repairs to air-brake equipment which are handled through stock balance, the used material equals approximately 12 per cent of stock balance, and shop-made material, 10 per cent.

The Future of the Railroads

(Continued from page 733)

guaranty that any business can be made to earn such a return, and any attempt at such a guaranty is pernicious in at least two respects. In the first place it engenders keen public resentment against the industry in question, and in the second place it diverts the attention of the owners of the property from the proper management of the business. They look to Washington when they ought to be looking to themselves. In my judgment this is the worst effect which public regulation has had upon the railroad industry. I cite as an illustration the extraordinary attempt which was made in 1931, in a period of rapidly falling prices and business and with outside competition growing by leaps and bounds, to resuscitate railroad earnings by an increase of 15 per cent in all rates.

Let me in closing say that I have no idea that the railroads are approaching the status of the old canal boat and the stage-coach, and that I see no need for the industry to decline. The opportunities for improvement in equipment, facilities, methods of operation, and service are very great. The worst danger is that full scope for these opportunities will not be given.

Two Train Accidents at Deans, N. J.

THE Bureau of Safety, Interstate Commerce Commission, in its report (No. 1884) on the wrecking of a motor truck on the Pennsylvania railroad, at Deans, N. J., on January 3, at 4:29 p.m., gives interesting details on an unusual accident, though the Bureau is finding an increasing number of occasions to investigate this class—automobiles entering upon crossings in the face of fast passenger trains.

Deans is on the four-track main line, 40 miles west of New York, and the line at the crossing (Deans Station) is straight and practically level. Westbound passenger train No. 31, the "Spirit of St. Louis," running at 60 m.p.h. on Track 4, struck a motor truck, weighing with its load 10 tons or more, which was driven upon the crossing at about 40 miles an hour, and the engineman of the train, as well as the driver of the truck, was killed. The locomotive was one of the new electric engines of the Pennsylvania and the engineman was crushed within his cab, the front walls being bent so that for a long time it was impossible to take out the man's body. A part of the wreckage from the truck lodged upon eastbound track No. 1, and about ten minutes later, this caused the derailment of eastbound passenger train No. 1072, drawn by a steam locomotive, which also was moving at about a mile a minute. No vehicle in train No. 31 was derailed, and the eastbound train suffered little damage except the partial derailment of the locomotive. No. 31 ran about 3000 ft. past the crossing, and No. 1072 ran about 2800 ft. after striking the obstruction. This obstruction appears to have been an automobile wheel and appendages.

The flagman of No. 31 went back and stopped train No. 69, and also a freight train on track 3.

The crossing watchman waved his flag and sounded his whistle, but the truck driver paid no attention. The driver appears to have turned his truck, apparently in an effort to avoid collision, only a second before the collision occurred.

The report, in its conclusions, says that the crossing is in open, level country, with nothing to interfere with the driver's view of the crossing watchman, and no serious obstacle to a continued view of the approaching train. It censures the helper on the electric locomotive of No. 31 for not trying to flag eastbound trains; the baggageman also made no attempt to provide flag protection, the locomotive helper having asked him to hunt for a physician.

The report suggests that the construction of the cab of the new electric locomotive does not provide adequate protection in accidents of this character.

Both Automatic and Manual Control for Crossing Signals

Boston & Maine effects saving of 27 per cent annually on expenditure and increases protection

Flashing-Light Signals Are Used

THE Boston & Maine has installed flashing-light highway crossing signals at nine street crossings in Hudson, Mass., to replace gates and a watchman. During the night these signals are controlled automatically by track circuits in the usual manner, while during the day, when switching movements are being made, they are controlled by a manually-operated machine located in a tower near one of the streets.

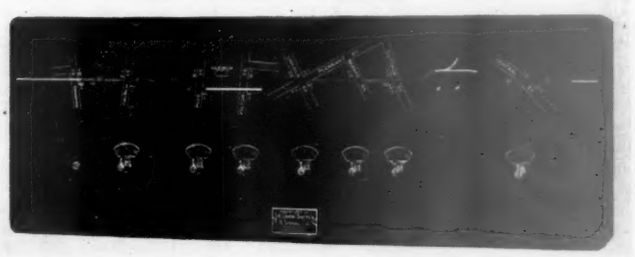
Hudson is a town of 8,500 population, and as the Central Massachusetts branch of the railroad passes through the business and residential section of the city, street traffic is fairly heavy at all of the crossings, especially at Lincoln street. Under the previous arrangement, manually-operated gates were in service at eight of these crossings and a flagman was on duty at the other crossing. As the gates and watchman afforded protection for certain tricks only, a study was made to devise a means of providing full 24-hour protection of a uniform character at all of the crossings. From this study, it was decided that flashing-light signals would not only afford increased protection and safety to street traffic, but would also offer a means of reducing operating expenses.

Numerous Switching Movements

One serious obstacle was imposed by the numerous switching movements that are made in this territory during certain hours of the day. Therefore, the ordinary automatic arrangement controlled by track circuits would result in the signals operating for extended periods when no train movement over a crossing was imminent. Because of this condition, it was feared that the drivers of cars would soon come to disregard the indications of the signals and accidents would result. To meet this situation, a duplex system of control was devised. During the night when few switching movements are made, the signals are controlled automatically by track circuits in the usual manner, while from 7:25 a.m. to 7:00 p.m., when switching is being done, they are controlled from a machine located in a tower at Cottage street. The watchman at this point receives information from the switching crew as to the movements to be made, and in addition he can see from the tower the moves that are being made at some of the crossings. However, since several of the crossings are beyond his range of vision, track-occupancy lights were provided on the illuminated track diagram to inform him of the approach and passing of trains at these crossings.

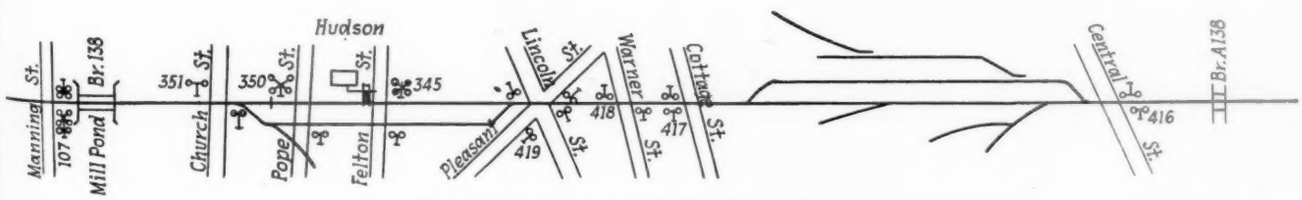
A three-position miniature lever is provided for the control of the signals at each crossing. When the lever is on center, the control is completely automatic; when thrown to the right the signal operates on manual control and when thrown to the left, the signal will not operate even though a train may be occupying the track circuit controlling the signal.

The signals comply with A.R.A. Signal Section standards for flashing-light signals and are equipped with 11-volt 11-watt lamps which are normally operated on alternating current but in case of an a-c. power failure are thrown over on a storage battery. The storage batteries are used normally for the control circuits and relays, and are on a-c. floating charge through rectifiers. Three cells of primary battery are used for each track circuit.



The Control Machine Includes an Illuminated Track Diagram

The entire installation, involving protection for the



Plan Showing Location of Streets and Signal Protection

nine crossings, cost about $15,765. In addition to providing more effective protection for the full 24-hour period each day, the new system is effecting a net saving of $4,255 annually in operating expenses, equivalent to 27 per cent of the cost of the improvements.

Construction Cost Indices

WASHINGTON, D. C.

THE Bureau of Valuation of the Interstate Commerce Commission has prepared a compilation of general indices of railroad construction costs for each year 1915-1933 inclusive, using 1910-1914 as the base of 100.

These indices are composites of the individual items included in each account as prescribed by the commission in its Classification of Investment in Road and Equipment of Steam Roads. The indices have not been examined or passed on by the commission.

They summarize and record the result of studies made by the Engineering Section of the Bureau and have been developed from analyses of major construction contracts entered into over a period of thirty years, returns to Valuation Order No. 14 which requires reports of representative purchases by larger carriers, field inspection of construction, joint studies with representatives of the Presidents' Conference Committees, recognized engineering and trade publications, manufacturers' quotations, and data furnished by other government and state departments and by individual carriers.

The indices present the index factors for the country as a whole and also for each of the eight regional groups described in Statistics of Railways of the United States. They are described as of value in indicating year relationships to the base, and trends. They are not necessarily applicable for use in the determination of the reproduction costs of individual railroads, telegraph or telephone companies or other utilities, since the indices of individual items of property comprising any account may require different weightings.

The weighted average of accounts 1-77 shows a peak of 226 in 1920 since which there has been a gradual reduction to 133 in 1933. The peak years for road, equipment, and general expenditures also occurred in 1920. The road index fell to 127 in 1933, the equipment index to 153, and the general expenditures index to 129. The tabulations for the United States, Regions I to VIII, inclusive, are shown in the accompanying table.

Regions I to VIII, Incl.

TABULATION OF INDICES BY YEARS AND BY ACCOUNTS APPLICABLE TO THE ENTIRE UNITED STATES

The indices represent territorial index factors and are not necessarily applicable for use in the determination of unit reproduction costs upon individual roads.

Acct.	*Per Cent	1915	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33
ROAD																				
1	2.74	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127
3	17.54	100	110	130	165	190	250	170	143	160	164	149	153	143	135	133	123	118	106	98
4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
5	1.46	103	109	128	150	183	208	179	165	179	179	179	178	169	155	155	143	130	119	111
6	9.06	105	111	146	162	178	206	165	160	176	173	171	170	168	164	163	150	134	122	122
7	0.04	102	124	169	177	184	210	150	153	173	171	168	165	163	163	162	154	144	129	122
8	5.30	100	100	112	133	170	201	189	157	177	175	172	173	175	176	175	170	155	144	139
9	8.09	101	106	121	148	152	168	158	144	145	145	144	144	144	144	144	144	144	140	134
10	2.61	99	129	198	210	203	209	192	161	182	179	177	177	177	177	170	169	165	163	158
11	3.95	103	107	114	140	150	207	191	176	175	175	174	175	176	176	176	168	159	146	146
12	4.19	100	100	130	163	175	218	174	165	188	188	188	188	188	188	188	182	175	164	157
13	0.49	100	122	142	178	194	204	189	177	179	179	176	175	175	175	173	171	164	147	135
14	0.08	103	108	119	165	199	280	197	194	212	200	201	201	204	204	204	198	188	125	126
15	1.14	104	108	137	161	182	208	171	164	178	175	171	169	166	165	165	161	153	131	127
16	4.27	101	115	135	154	185	215	192	180	194	193	188	184	189	188	187	182	165	141	145
17	0.49	100	115	136	156	185	216	192	178	196	196	189	187	192	191	190	186	166	140	145
18	0.79	101	120	159	170	191	213	185	178	187	187	186	182	185	186	184	177	161	147	151
19	0.25	101	120	153	160	190	212	181	166	185	185	182	180	183	183	183	174	159	144	149
20	2.08	102	118	141	159	188	216	191	180	193	192	188	185	189	188	187	176	161	137	142
21	0.09	100	110	128	150	185	214	190	184	197	197	193	190	195	193	193	182	165	137	142
22	0.04	100	115	135	155	185	210	193	178	198	198	193	189	193	191	191	184	165	137	142
23	0.51	100	114	133	152	178	204	167	158	175	175	174	177	178	178	178	172	158	136	141
24	0.43	101	117	145	155	184	204	170	159	176	176	174	174	176	176	176	172	157	136	142
25	0.01	108	122	148	175	194	213	194	176	188	189	186	185	188	189	189	178	163	145	148
26	0.33	103	124	147	158	164	192	191	162	187	179	163	157	163	165	165	150	138	121	119
27	0.91	94	106	132	152	165	175	163	158	165	164	162	169	158	155	154	147	138	130	130
28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
29	0.13	104	122	141	158	189	218	197	184	196	196	191	186	191	191	189	177	162	138	143
30	0.01	101	117	137	156	187	218	194	180	197	197	192	188	193	191	190	176	161	137	142
31	0.03	115	166	190	181	186	176	145	132	142	136	140	141	137	142	150	136	116	98	98
32	0.15	109	148	178	192	189	205	172	163	178	172	175	176	175	178	181	173	148	144	144
33	0.06	106	116	145	169	194	230	208	179	209	203	185	183	198	199	209	200	172	147	147
34	0.01	101	110	119	172	206	250	228	214	220	215	220	216	219	219	217	215	175	175	175
35	0.04	101	117	137	156	186	217	192	179	195	195	190	186	191	190	189	182	164	141	146
36	0.03	104	124	153	177	205	217	191	190	191	191	191	190	190	190	190	190	181	156	150
37	0.08	105	113	127	146	158	170	162	149	151	151	151	151	151	149	148	147	144	138	138
38	0.05	100	100	179	179	184	202	181	170	173	185	190	190	191	191	190	160	155	155	150
44	0.91	115	126	155	192	200	210	198	173	183	185	185	186	187	189	191	176	166	155	155
45	0.25	115	126	155	192	200	210	198	173	183	185	185	186	187	189	191	176	166	155	155
46	0.06	115	126	155	192	200	210	198	173	183	185	185	186	187	189	191	176	166	155	155
Wtd. Ave. 1–46	68.75	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127
EQUIPMENT																				
51	6.43	86	102	145	189	202	240	192	179	197	185	171	191	190	179	188	194	184	168	166
52	0.12	100	117	137	184	184	217	197	196	198	199	192	194	202	203	221	221	210	175	165
53	13.35	101	148	183	243	267	284	184	156	200	179	171	163	178	169	185	181	161	144	144
54	2.55	89	104	132	164	197	213	169	152	192	187	183	189	191	180	183	181	178	161	161
55	0.02	89	104	132	164	197	213	169	152	192	187	183	189	191	180	183	181	178	161	161
56	0.57	107	125	164	227	245	239	200	175	170	176	170	170	170	170	170	165	158	148	148
57	0.66	96	128	165	225	244	263	193	168	203	183	188	180	192	184	195	191	178	165	165
58	....	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Wtd. Ave. 51–58	23.69	96	130	166	219	240	265	185	163	198	182	173	174	183	174	186	185	170	153	153
GENERAL EXPENDITURES																				
71–75 and 77	0.97	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127
76	6.59	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128
Wtd. Ave. 71–77	7.56	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128
1–46	68.75	101	110	134	159	178	214	175	157	171	171	166	166	164	161	160	152	143	131	127
51–58	23.69	96	130	166	219	240	265	185	163	198	182	173	174	183	174	186	185	170	153	153
71–77	7.56	102	111	135	161	181	216	176	158	172	172	167	167	165	162	161	153	144	132	128
Wtd. Ave. 1–77	100	100	115	142	173	193	226	177	159	177	174	168	168	169	164	166	160	149	136	133

* The percentages shown are the relationship in dollars of each individual account to the total of Accounts 1 to 77 inclusive except Account 2-Land, and were arrived at by taking 1910-14 dollars from the basic engineering reports with varying dates of valuation from 1914 to 1921 inclusive.

Unions' Bills Make Progress

Pension, adjustment board, and six-hour day bills move forward in Congress

WASHINGTON, D. C.

WHILE general transportation legislation to provide for the regulation of water and highway transportation, although recommended by Coordinator Eastman, and other railroad legislation advocated by the railroads continue to make little headway in Congress, the program of bills advocated by the Railway Labor Executives' Association seems to be making considerable progress. The Senate committee on interstate commerce on May 12 reported a railroad retirement pension bill, in spite of Mr. Eastman's testimony before the committee that "the information now at hand does not permit of wise and well-considered legislation on the subject of pensions," and it was expected shortly to report the bill to amend the railway labor act of 1926 and set up a national board of adjustment, largely in the form which Mr. Eastman had recommended, as a substitute for the bill proposed by the Railway Labor Executives' Association.

A vote in the House on the Crosser six-hour bill, another part of the program of the railroad labor organizations, was assured on May 11, when Representative Withrow, of Wisconsin, obtained the 145th signature to his motion to discharge the House committee on interstate and foreign commerce from consideration of the bill, thus completing the number necessary to insure bringing the bill directly to the floor of the House. Mr. Eastman's advice was not asked on this bill, although he was a member of the division of the Interstate Commerce Commission to which the subject was referred at the last session of Congress for an investigation and which reported that the application of the six-hour day to railroad service would add over $600,000,000 a year to railroad operating expenses.

The pension bill reported was a substitute adopted by a sub-committee of the committee on interstate commerce headed by Senator Brown, of New Hampshire, for S. 3231, which had been introduced jointly by Senators Hatfield and Wagner. The bill was introduced as a compromise between the bill introduced earlier by Senator Hatfield at the request of the Railroad Employees' National Pension Association and one introduced by Senator Wagner at the request of the Railway Labor Executives' Association, although it was mainly based on the provisions of the Hatfield bill. The compromise bill, however, was accepted by spokesmen for the Railway Labor Executives' Association at the hearing, and the substitute bill now reported is largely based on that bill, although some changes have been made, chiefly one which gives the bill the appearance of only temporary legislation, in view of the position taken by Mr. Eastman, by provision for a four-year "experience period" during which the proposed Railroad Retirement Board would be directed to make specific recommendations for "such change in the retirement system hereby created as shall insure the adequacy and permanency of said retirement system on the basis of its experience and all information and experience then available." The bill itself, however, is in permanent form and would continue in effect unless changed, and it still contains many provisions which were severely criticized both by Mr. Eastman and by witnesses for the railroads, including that for pensioning officers or representatives of labor organizations. Some of the principal provisions and the arguments in support of the bill are stated in the committee report in part as follows:

Proposed Pension Plan

Important among the provisions of the bill is that for a 4-year experience period during which the fullest opportunity will be had for collecting information, making investigations and actuarial studies. This will serve as the basis upon which specific action can be taken, assuring the adequacy and permanency of the retirement system provided therein and making it possible to provide adequate retirement annuities to aged railroad employees. It is obvious that retirement of any considerable number of the older employees will make possible greater employment opportunity and will tend to promote efficiency and safety in interstate transportation.

One of the needs of Congress, in dealing intelligently with retirement pensions and other relief measures, is to have available, as early as is possible, an actual experience growing out of the operation of a plan such as is proposed herein.

The committee is fully convinced after careful and thorough investigation of all the information and data available at this time, that the opportunity presented in this substitute bill, for a complete detailed study of the various elements entering into the problem of providing a safe, sound, and dependable retirement plan, will provide Congress with reliable information useful to consideration and determination of any future plans intended to aid and improve the welfare of the citizens of the United States.

The record shows that there is now some form of retirement pension plan upon 90 per cent of the railroad mileage in the United States. Such plans, however, are not by any means satisfactory either to the railroads or to railroad employees. In most part the pensions provided are inadequate and the cost to the railroads is mounting year by year. This plan contemplates the possibility of determining from the actual experience such fundamentals as are necessary to the construction of a sound reserve plan.

Thousands of railroad employees, retired from service because of the infirmities of age, and are receiving pensions, if at all, in most part inadequate to provide for the comforts of life which years of honest toil should assure to them.

This bill suggests that the board take cognizance of this unfortunate condition and if it is found after a thorough and careful study of the situation arrangements can be made to provide necessary funds to meet the cost of bringing all such retired employees within the provisions of the retirement system established in the bill, it shall have such authority.

Such action by the board will have the effect of transferring the cost of age retirement pensions which the railroads are now paying under their present pension plans to the plan herein provided. Railroad employees are willing to contribute a portion of their wages to make possible more adequate retirement annuities or pensions and to provide the assurance that funds will be available to pay such annuities or pensions when retirement is forced upon them.

With the combined contributions of railroads and their employees, it is conceivable that adequate funds can be provided to meet the obligations and purposes of the act without undue burden to either party.

Because of the accrued obligation of the railroads to provide pensions to employees for service rendered prior to the effective date of the act, it is provided that the railroad's contribution be double that of its employees.

Statement of the Plan

All carriers coming within the scope of the Railway Labor Act are to be treated as one employer for the purposes of the act.

The old-age pension or annuity is to be based upon the wages and the length of service of employees upon all railroads, with specified maximum limits. The payments are to be provided through funds created by joint contributions from the railroads and the employees.

The Treasury of the United States is made the depository

for these funds. The payments to be made from such funds are limited to the amounts provided by the railroads and the employees, and no burden is placed on the Public Treasury.

The employees shall contribute 2 per cent of the compensation paid to them by the carrier and the carrier shall contribute an amount equal to twice the amount contributed by its employees.

The carriers are required to deduct the amount of each employee contribution from the compensation paid to such employee and shall pay all such employee contributions together with the carriers' contribution into the Treasury of the United States.

The administration of the system is to be under the direction and supervision of a board composed of three members, to be appointed by the President of the United States, with the advice and consent of the Senate.

In the substitute bill the amount of the pension or annuity is to be 2 per cent of the basic wage of the employee multiplied by the number of years of service, but is not to exceed 60 per cent of the basic wage for service rendered prior to the effective date and not to exceed 75 per cent of the average wage for service rendered after the effective date. The basic wage is to be determined upon average compensation as defined in the bill, but no compensation in excess of $400 per month is to be recognized in determining the basic wage.

Pensions are to be payable from and after age 65, or upon completion of 30 years of service. Retirement is to be compulsory at age 65 with a provision for an agreement by the employee and the railroad to extend the employment from year to year, but not beyond age 70. Compulsory retirement at age 65 shall not apply to officials of carriers until 5 years after the act takes effect.

If the pension payments are begun before age 65 upon completion of 30 years of service, the maximum pension payment is reduced from the 60 per cent maximum by 4 per cent of the basic wage for each year the employee is less than 65 years of age when the pension payments are begun. Thus, at age 60 the maximum pension is 40 per cent and at age 55 it is 20 per cent, and no pension at all is payable below age 51. The reduction in the maximum does not apply where the employee is retired by the railroad for mental or physical disability.

The board is required and directed to collect and maintain funds in amounts sufficiently adequate to meet all annuity payments, other disbursements authorized in the act, and all the expenses of administration.

During the four-year experience period or such part thereof as shall be necessary to determine a basis for making the plan adequate and permanent, it shall be the purpose of the act to provide funds to meet all current annuity payments, other disbursements and expenses, and to provide and maintain marginal funds to meet probable contingencies.

The average wage of $1,667 per year will produce an average monthly annuity of $83.33.

On the basis of present pay rolls of approximately $1,500,000,000 the contributions of the carriers and their employees at the initial 2 per cent would produce $90,000,000.

The probable maximum retirement will not exceed 50,000 employees the first year. If this maximum number does retire at the average annuity of $83.33 per month or $1,000 per year, the total of annuity payments would not exceed $50,000,000. There would then remain in the fund from all contributions made the first year approximately $40,000,000 which could be used by the board for making payments to such employees who had prior to this time been retired at age 70 or over and in this manner relieve some of the burden now assumed by the carriers in the payment of pensions under plans in effect on the individual railroads.

It is a question as to what extent, if any, the payment of pensions to aged employees actually increases operating costs. Without a satisfactory retirement system these aged employees are often continued in the service when it would be in the interest of economical operation to retire and pay them pensions.

If it be good business judgment to replace worn-out and depreciated equipment with new and efficient equipment, it is equally in the interest of efficient and economical operation to retire those employees who have worn themselves out through long years of arduous toil in the performance of faithful service to the industry and thereby bring into the industry that proportion of younger and more active employees.

If this be done, it will not only result in benefit to the industry but will serve to extend to these aged employees the satisfaction of a well-earned reward which has been paid for by years of their devotion to the service.

The substitute bill aims at this time and during the four-year experience period to impose the least possible burden on the railroads and the employees. It proposes to meet current obligations in the payment of annuities to employees who shall retire under its provisions from current contributions during such experience period.

Report on Pittsburgh Derailment

W. J. PATTERSON, director of the Bureau of Safety, has made his report to the Interstate Commerce Commission on the derailment of February 26, on the Pennsylvania, at Pittsburgh, Pa., when eastbound passenger train No. 1638, moving at high speed, ran off the track on a curve of 8 deg. 15 min., and the whole train, of locomotive and five cars, was badly wrecked. Nine passengers, the engineman and the fireman were killed and 42 persons were injured; 28 passengers, four employees on duty, eight employees off duty, four dining car employees and two Pullman employees. The train was made up in Akron, Ohio, and entered the eastern division at Homewood Junction, 35 miles from Pittsburgh; and at Rochester, 26 miles from Pittsburgh, it was 17 minutes late, having lost time because the engine did not steam well. The collision occurred at about 9:32 p. m., near Federal street, about one mile west of Pittsburgh station and the train had traveled the last 24 miles in about 26 minutes, including one stop. The line is operated under the controlled manual block system, but there are automatic signals for spacing following trains, and this train had passed three signals set against it; an approach-restricting signal, 3,482 ft. west of the point of derailment, another one 2,178 ft. and an approach signal 828 ft. from the point of derailment. Because of several curves in the line, the speed-limit rule is 40 miles an hour for a short distance and then 25 miles an hour on the curve where the train ran off the track; also, the three signals named, all position-light signals, are so controlled as never to allow full speed. The signals are on bridges spanning the four main tracks. The locomotive, No. 7274, was overturned to the right and there are no indications that it ran any distance on the ties after leaving the rails. The derailment happened at a facing-point switch, but there is no evidence that the switch was wrong. The locomotive struck and wrecked a steel box car standing on a side-track, and an abandoned brick signal tower was demolished.

The men on the train gave varied estimates of the speed, but although the line approaching this point, VN block-station, has numerous curves and the speed-limit rule is low, no one deemed the speed dangerous, except Passenger Trainmaster Lowery, who was on the train. He, riding in the leading car, a combination baggage and passenger car, interviewed briefly by the inspector, said that when he passed VN tower, about half a mile from the point of derailment, he noted that the train was running at about 60 miles an hour, and he got up and signalled the engineman to reduce speed; but the derailment occurred immediately after without any application of the brakes. No member of the crew had noticed any application of the brakes, nor had any of them seen or heard a signal to reduce speed given by anyone; and, in its conclusion, the report says that there was no evidence to substantiate the trainmaster's statement; but, "if in fact, he did think the speed was too high, it was his duty to apply the brakes in case the engineman did not act in accordance with his signal." The conclusion of the inspector is that the speed was about 60 miles an hour at the time of derailment.

Engineman Shaw, 59 years old, was a thoroughly qualified employee, well-acquainted with the territory, and had been on this run about one month, having also

(*Continued on page 744*)

Report Reviews Rail Failure Statistics for 1932

Data compiled by Rail committee of the American Railway Engineering Association show no marked change in performance

By W. C. Barnes
Engineer of Tests, Committee on Rail, A.R.E.A.

[One important activity of the Committee on Rail of the American Railway Engineering Association in its study of the causes of rail failures is the compiling of statistics on broken rails. This work, which has been carried on without interruption since 1912, is under the direction of the committee's engineer of tests, a position which has been occupied for a number of years past by W. C. Barnes. The data are presented in the form of annual progress reports which are divided under two heads: (1) Rail Failures and (2) Transverse Fissures. An abstract of these two reports, covering the statistics for 1932 and including in part the data for previous years, is presented below.—Editor.]

Rail Failure Statistics for 1932

THE rail failure statistics for the year ending December 31, 1932, appearing in this report have been compiled in accordance with the standard method of basing the failure rates on mile-years of service in track. The reported tonnages and track miles of the rollings for 1927 and succeeding years embodied in these statistics are as follows:

Year Rolled	Tons	Track Miles
1927	1,775,594	10,479
1928	1,682,899	9,742
1929	1,707,783	9,709
1930	1,210,343	6,852
1931	620,483	3,521
Totals	6,997,102	40,303

Table 1 shows the average failures per 100 track miles of rail in service which occurred within the first five years of service of all rail reported, and embraces both Bessemer and open hearth rail. The 1927 rollings, on which observations are now concluded, show an average of 112.4 failures per 100 track miles during the five-year period, a decrease of 18.9 failures under those reported last year for the 1926 rollings, but substantially the same rate as previously reported for the rollings of 1922 to 1925 inclusive. Figure 1 shows the five year averages from Table 1 diagrammatically.

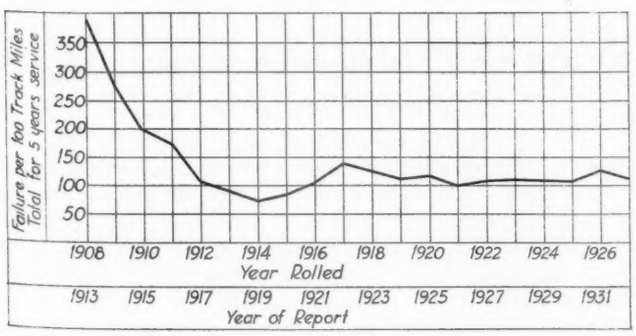


Fig. 1. Rail Failures in the United States and Canada

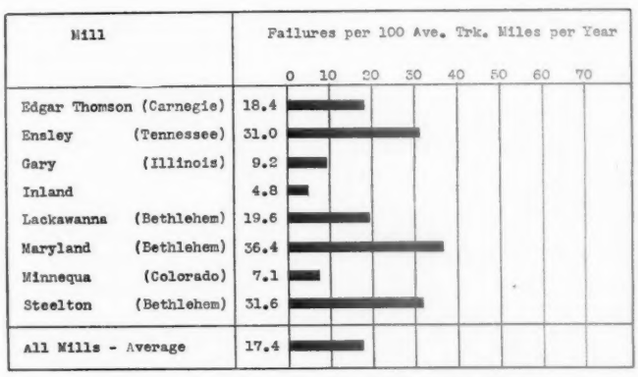


Fig. 2. Average Failure Rates for the Rollings of 1927 to 1931, Inclusive, Classified by Mills

Figure 2 presents diagrammatically the average "per year" failure rates per 100 average track miles in service of the rollings of 1927 to 1931, inclusive, from the various mills. These rates do not take into consideration the traffic carried. Inland shows the lowest failure rate of 4.8, followed closely by Minnequa with a rate of 7.1, and Gary with a rate of 9.2.

Figure 3 shows the average number of failures per year per 100 average track miles per unit of traffic density.

Table 1.—Average Failures Per 100 Track Miles—All Mills

Year Rolled	Years Service 1	2	3	4	5
1908					398.1
1909				224.1	277.8
1910			124.0	152.7	198.5
1911		77.0	104.4	133.3	176.3
1912	28.9	32.1	49.3	78.9	107.1
1913	12.5	25.8	44.8	69.5	91.9
1914	8.2	19.8	32.9	50.9	74.0
1915	8.9	19.0	34.2	53.0	82.4
1916	11.8	29.2	47.7	70.6	105.4
1917	21.6	38.9	66.0	110.5	137.0
1918	8.9	27.6	54.0	92.8	125.4
1919	14.8	39.4	73.7	104.8	115.7
1920	14.2	32.4	63.1	84.5	119.6
1921	10.9	34.9	56.9	70.9	98.9
1922	15.9	34.8	55.2	80.4	110.0
1923	14.3	33.2	57.6	86.9	114.1
1924	14.0	33.4	58.3	82.0	110.7
1925	15.5	36.6	58.3	76.6	110.7
1926	17.1	41.2	64.6	102.6	131.3
1927	18.4	37.7	69.5	94.6	112.4
1928	11.0	28.0	45.8	57.4	
1929	14.1	36.8	55.9		
1930	7.8	12.8			
1931	9.1				

No claim is made in the report that the method of arriving at the rating is accurate, but it is contended that it gives more consideration to the relative amount of work which the rails are called upon to perform than a comparison of failures per 100 miles of average track. The use of traffic density factors has resulted as follows: In-

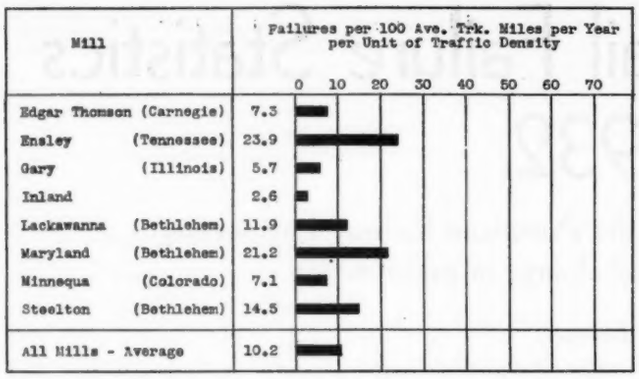


Fig. 3. Average Failure Rates for the Rollings of 1927 to 1931, Inclusive, in Terms of Traffic Density

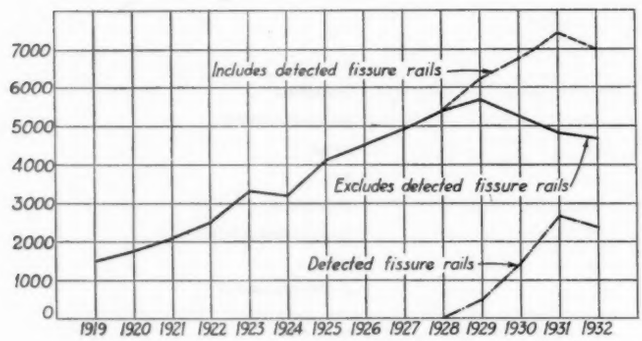


Fig. 4. Total Fissure Failures Reported Each Year

land remains in first place with the lowest failure rate, Gary has moved up into second place, very closely followed by both Minnequa and Edgar Thomson.

Transverse Fissure Statistics

The statistics on transverse fissure failures constitute a cumulative record of 65,281 failures which have been reported up to and including December 31, 1932. They include all fissured rails reported, whether located by actual breakage in track or detected before breakage by inspection or test. The fissure failures occurring in service and detected, that were reported in 1932 totalled 7,054, which is 427 less than were reported in 1931. This decrease is accounted for by a reduction of 171 service failures and 256 detected failures. This decrease in total service and detected failures, as will be seen from Fig. 4 is the first that has occurred since the year 1924.

Fig. 4 presents graphically the total fissure failures reported each year. The dotted curve includes "detected" fissure failures while the solid curve excludes them. The broken line curve shows the detected fissure failures only. The change in the slope of the curve of actual service failures coincident with the inception of detector car work in 1929 is noteworthy. The downward slope, during 1932, of the dotted curve showing all fissure failures no doubt results from the detection work carried on during that and previous years and also from decreased traffic.

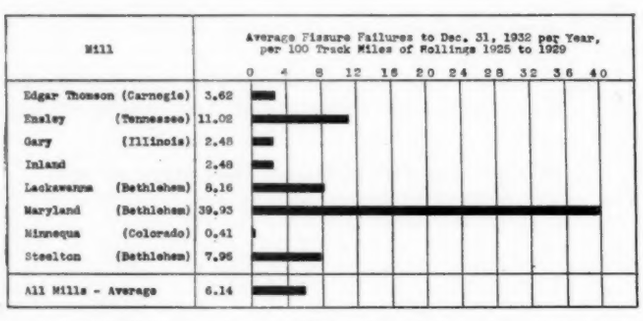


Fig. 5. Average Fissure Failure Rates, Classified by Mills (Includes Fissured Rails Detected Before Failure in Track)

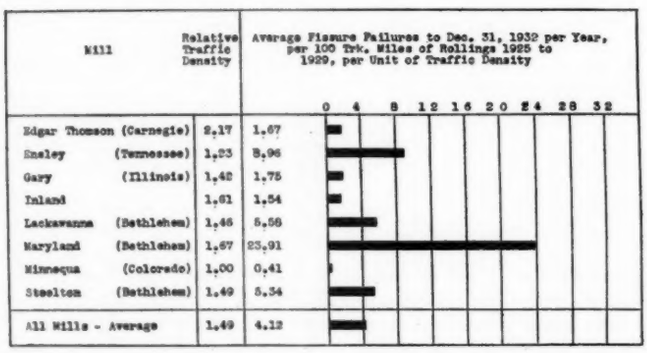


Fig. 6. Average Fissure Failures by Mills, Altered by Traffic Density Factors (Includes Fissured Rails Detected Before Failure in Track)

Table 2.—Average Transverse Fissure Failure Rates on Selected Roads Per 100 Original Track Miles Per Year from Year Rolled to December 31, 1932, by Mill and Year Rolled

(Includes fissured rails detected before actual failure in track)

Year Rolled	E. Thom (Carn.)	Ensley (Tenn.)	Gary (Ill.)	Inl. (Inl.)	Lack. (Beth.)	Mary. (Beth.)	Minn. (Colo.)	Stltn. (Beth.)	All Mills
1925	2.46	11.69	2.71	2.44	6.51	6.41	0.57	3.92	4.84
1926	5.33	12.75	3.90	4.29	7.72	36.76	0.55	8.13	6.70
1927	3.94	13.94	2.91	2.29	11.74	32.15	0.33	10.50	6.84
1928	3.80	3.04	0.58	0.89	9.99	27.63	0.38	12.78	4.45
1929	1.60	7.27	0.46	0.84	5.61	105.53	0.00	9.56	8.58
Ave.	3.62	11.02	2.48	2.48	8.16	39.93	0.41	7.96	6.14

Table 2 shows the rate of accumulated failures on selected roads per 100 original track miles per year from the year rolled to December 31, 1932. The data included are for the rollings of 1925 to 1929 inclusive and are segregated by mills and by the years rolled. No account is taken in this table of differences in density of traffic over the rails from the various mills.

Table 2 includes a total of 11,431 fissure failures which occurred in 37,239 miles of track. Colorado, Inland, Gary and Carnegie mills show the lowest average accumulated failure rate per 100 track miles per year from the date rolled to December 31, 1932, the respective rates being 0.41, 2.48, 2.48 and 3.62.

Figure 5 shows the average rates of failure by mills from Table 2, while Figure 6 shows the average rates of failure by mills from Table 2, modified by the application of average traffic density factors. The weighting for relative traffic density has improved the rates of those mills whose rails carried the heavier traffic and has resulted in putting Carnegie in third rank instead of Gary.

Report on Pittsburgh Derailment

(*Continued from page 742*)

been on it two or three years prior to 1930. He was rated a reliable efficient engineman, with excellent habits and a good record, and had successfully undergone the regular physical examination only three days prior to the derailment. The conductor and several other employees had talked with Shaw prior to starting from Akron and believed him to be in normal condition. There was no evidence of anything wrong with the locomotive or the brakes, and the conclusion is that he must have been

either dead or so incapacitated as to prevent him from taking proper steps to control the speed.

The inspector observes that automatic cab signals are in use on the Pennsylvania between New York and Washington and between Baltimore and Indianapolis (over 1000 miles); and that as this line—Pittsburgh to Chicago—is high-speed territory, with frequent trains, "it is believed that the road should give careful consideration to the need for additional protection in this territory."

The report makes no mention of the fireman, or of his duty or responsibility in connection with the movement of the train.*

* The report of John P. Dohoney, of the Pennsylvania Public Service Commission, on this derailment, noted in the *Railway Age* of March 31, page 480, in which an investigation of the feasibility of extending the cab signal system is called for, says that there were in the train (as passengers) two qualified enginemen and four qualified conductors, yet no one took sufficient notice of the excessive speed to take any action. Referring to the trainmaster, who was severely injured, Mr. Dohoney says that, in view of the testimony of other occupants of the car, the trainmaster must be mistaken in his belief that he pulled the air whistle cord.—EDITOR.

Communications . . .

Cultivating the Boy Scouts

TO THE EDITOR:

Referring to Scout Master Durieux's letter on page 584 of your issue of April 21:

Realizing the value of teaching the "younger generation" the virtues of railroad transportation (and also in view of the splendid work being done by the Boy Scouts of America) one of the western railroads has for some years granted Boy Scouts a special rate to and from their summer camps.

On this line is a city of several thousand inhabitants in which there is a Boy Scout Area Council, and each year this road has granted a round-trip rate to its summer camp that just about met the out-of-pocket expense involved in the movement.

Likewise, the smaller councils located on the line of this property have been granted rates on a similar basis. One of the officers of this company is constantly contacting Scout officials and Scouts to assure proper credit being given the road for what it is doing in this direction. As a matter of fact, several of the officials are actively engaged in Boy Scout work, believing that the training these boys are receiving is the kind that will make them men who will appreciate the "fair deal" to which the roads are entitled.

SILVER BEAVER.

High Rates the Railways' Principal Passenger Handicap

KEW GARDENS, L. I., N. Y.

TO THE EDITOR:

In connection with the current efforts to increase passenger traffic on the railroads, a part of the problem seems to be that of acquainting the general public with the comfort, speed and safety now available to all travelers by train. One ride for a considerable distance will convince the most skeptical rider of the desirability of travel by train, but at present the cost of a railroad ticket is a handicap which prohibits the experiment on the part of many who would otherwise be regular travelers.

The reactions of bus travelers narrow down in the final analysis to one important feature of a journey by rail. Travel by bus may be tiresome, but travel by rail is expensive. Travel by bus may be slower, but travel by rail is expensive. Travel by bus may be more dangerous, but travel by rail is expensive.

Rail fares should be reduced to that point where choice of a method of travel can be made by the average person on a basis other than expense. Were this possible, can there be any question that air-conditioning, higher speed between cities, and lack of nerve strain en route would induce all who venture on their first train ride to remain a steady, satisfied customer of the railroad?

It may be argued that total revenue will not increase. Possibly not, although the experience of some of our Southern roads has shown that a drastic cut in coach and Pullman fares did not reduce revenues, and in many cases increased them. Be that as it may in the early stage, the fact remains that traffic will be greatly increased, and each additional passenger will remain a pleased and vocal exponent of rail travel, an advertising force whose cumulative value is tremendous.

ALLAN O. GEERTZ.

What Happens to Suggestions from the Rank and File?

TO THE EDITOR:

I have been reading the Traffic Development Series of articles with much interest, particularly the article, "Can the Railways Improve Their Freight Solicitation Methods?", which appeared in the *Railway Age* of February 23, for it recalled efforts made in 1921 to improve railway practices. During the 27 years that I have been engaged in railroad work, I have observed that very few of the suggestions for improvement made by persons outside the railroad field have not already been made by railroad employees. For some reason which I have never been able to figure out, it seems that any suggestions for improvement that come from within the ranks are considered of no value but if they come from outside railroad ranks, they have considerable merit.

For example, some of the articles of the Traffic Development Series have been sent down through the various departments by the presidents and held up as something that is worth while. This is good judgment on the part of the presidents. However, many of the same thoughts have been expressed year in and year out for the last two decades by the rank and file but their ideas never seem to get anywhere. Maybe the answer to it is found in the biblical quotation, "A prophet is not without honor, save in his own country and in his own house."

It may be that the suggestions made by the rank and file fall into the hands of clerks or secretaries to officers and they, not knowing what it is all about, follow the course of least resistance and make acknowledgment like the following: "Thank you very much for your letter of the 13th, relative to suggestions on how service, salesmanship or what have you can be improved, which has been read with considerable interest." It may be also that there are some executives who feel that inasmuch as the ideas did not originate with them they cannot be of much merit. Perhaps some executives are of the "old school" and cannot grasp new ideas that will cause them to depart from the precedents they have followed for so many years.

I feel that within the ranks there are brains that can solve some of the much-discussed transportation problems. The difficulty is to get these ideas adopted. If there were less head clerks, chief clerks, etc., to whom these suggestions must go, it would be helpful and the ideas would reach those executives qualified to determine their soundness.

Traffic department salesmen are heirs to a system which has spoiled many a natural salesman and turned him into a solicitor, or a beggar of freight and a member of the "gimme club" instead of a real, live, aggressive, original salesman of transportation. I have heard it said that since there is no competition and since all charges are the same, a solicitor is bound to be a beggar of freight for he has nothing to sell. Such a contention is incorrect, for all railroads have service for sale and there is as much difference between their services as there is between silk and cotton.

It is impossible to lay down hard and fast rules that will cover all cases, but there are definite factors underlying successful salesmanship—knowing the goods, knowing the customer, knowing competition and knowing one's self.

ONE FROM THE RANKS.

Odds and Ends . . .

Ten Cent Pay Check

Ed English, conductor on the Canadian National at Winnipeg, Man., still has an uncashed pay check which he received from the company when he first became a conductor in 1913. It is for 10 cents. In those days conductors had to buy their own uniforms; that is, they were supplied by the company but the cost was taken out of the conductor's first pay check. The sum of one dime was all that was coming to Conductor English on February 15, 1913, when the cost of his uniform was deducted.

Battle-Scarred Locomotive Retired

A locomotive which bore many of the scars of war, No. 2717 of the London, Midland & Scottish, has been scrapped after 1,220,000 miles of service. This engine was sent to France during the early days of the World War and performed faithfully until the battle of Cambrai in November, 1917, when it was captured by the enemy. For five months thereafter, it served as a machine gun post, but in March, 1918, it was removed from the front and its bullet and shrapnel holes were patched. It was then used as a switcher behind the German lines until November, 1918, when it was recovered by the British.

Another Conscience Contribution

The Northern Pacific has just received $50 in currency from a conscience-stricken "John Doe" of Walla-Walla, Wash., and this conscience fund thing is beginning to look like an epidemic. There have been so many of these incidents lately that they have almost ceased to come under the head of news. Perhaps P. B. Lacy, treasurer of the Northern Pacific, is correct in his guess as to the reason for the recent flood of conscience money. Mr. Lacy construes it as a definite "upturn" note, reflecting improved economic conditions which permit conscience-stricken persons to make restitution.

New Use for Old Coaches

The Great Western Railway of England has solved the problem which is bothering some railroads in this country—what to do with old passenger coaches. The Great Western is spotting them in a number of resort localities and renting them to camping parties. The coaches are completely equipped with cutlery, kitchen utensils, crockery, bed clothes, linen, oil lamps, mirrors and deck chairs, and they are for rent for periods of a week or more. Each coach has been planned to provide a two-berth and a four-berth sleeping compartment, as well as a large living room with a table, six chairs and a wardrobe, and a combined kitchen and scullery complete with sink, draining board, table, cupboard and a stove. Naturally the railway expects campers renting these cars to travel to and from the resorts by rail.

Front View from Rail Motor Cars May Wean Travel from Highway

The view from the front window of a rail motor car ought to go far, in the opinion of the Railway Gazette (London), toward educating passengers in the superiority of rail over highway transportation. "Motorists," says the Gazette, "often go out to experience the thrills of speed or to gaze at scenic beauties, but on fine days their pleasure is usually marred by the need for watching constantly the movements of cars in front, or for circumventing eccentric cyclists. Much motoring often gives one at last a sense of frustration and a hopeless hatred of one's fellow man.

"Jaded road users should book front seats for a journey in one of the lighter rail cars now running on railways here and abroad. To anyone not familiar with the engine driver's outlook, a long ride at an even 50 to 60 m.p.h., with a front view and all fear of danger removed, is an unforgettable experience, more like a dream of paradise than an actual passage through this world of snags. The fussless and smooth approach to blind places like tunnels and stations at the 88 f.p.s. pace, and the absence of scattering hens or humans as one flies through railway villages, suggests most powerfully that chaos must be giving way before order after all.

"To get out of the rail car into the automobile is a step from the sublime to the ridiculous, for the progress of the latter, hindered as it is by anything and everything, including signals which obey laws of their own irrespective of whether the road be blocked or clear, seems slow indeed. However, the tonic effect of a rail car ride is such that one laughs rather than weeps if in the end one must leave the railway for the snailway."

Some Longer Train Platforms

Woonsocket, R. I.

To the Editor:

Referring to the item entitled "Record for Long Train Platforms?" in the *Railway Age* of April 14, the Universal Directory of Railway Officials and Railway Year Book for 1933-34 lists the lengths of railway station platforms. That at Paddington is really little more than a roadside "halt" in comparison with one on the Bengal & North Western at Sonepur, India, which is 2,415 ft. long. Of the eight platforms listed as over 2,000 ft. long, five are in India, one at Bulawayo, Rhodesia, and one at Manchester, England, on the London, Midland & Scottish. There are 18 over 1,500 ft. long—9 in India, 8 in England and 1 in Rhodesia. There are three between 1,250 and 1,500 ft. long, two in England and one in India.

No Continental or American platforms are listed in this tabulation. I have a suspicion that there are some very long platforms at Retiro station in Buenos Aires, and some fairly long ones in Baura de Maua station (Leopoldina Railway) in Rio, but am not sure.

Buell W. Hudson.

A Superintendent's Valedictory

The following genial yet touching remarks of a division superintendent on the occasion of a dinner marking his retirement after 55 years of railroad service may strike a responsive chord in many veterans among railway officers who are about to retire or who see the day of their retirement too fast approaching:

"I am leaving active service with many regrets, for it separates me from your intimate companionship. I have expectations of enjoying many years of pleasant home life, and I shall look back on the many incidents occurring in my busy years with the utmost satisfaction. There is nothing on my conscience that disturbs its equanimity, and I expect to enjoy a peace of mind without which life is worthless.

"It has been my aim to always treat my fellowman as I would like to be treated—on the square. I hold no animosity or ill-will towards anyone, nor do I feel disappointed that circumstances or environment, or my own limitations, conspired to bring about my failure to reach my goal. As a young man I set my sights high. I have shot under the mark, but I shot, and kept shooting.

"My relations with the various departments have always been pleasant. The legal department has kept me out of jail. The claim department has paid all my claims. The treasury department has kept me out of debt. The purchasing department has furnished gasoline and rubber. The stores department has cleaned up all surplus material until I haven't any left, not even a monkey wrench. The freight and passenger departments have kept me busy chasing around the country, pulling their chestnuts out of the fire and helping get business, for which they claim and are granted all the credit. The safety department has kept me safe.

"The signal department has erected hundreds of interlocking and automatic signals to delay my trains. The engineering department has figured me out of many great projects I favored. The medical department supplied me with health-perpetuating remedies, and nursed me through the after effects. The fuel department has always fixed the figures so that I burned less fuel per ton. I have kept the mechanical department off the '87' report. The assistant general manager always says, 'No,' and the general manager gives me a long service pass. Altogether, I feel that I have done fairly well with all this assistance."

NEWS

Regulations for Truck Transport of Explosives

Interstate Commerce Commission to hold hearing June 6 on code of proposed rules

The Interstate Commerce Commission, Division 6, has issued a code of proposed regulations for the transportation of explosives and other dangerous articles by motor trucks or other vehicles which has been assigned for hearing at Washington on June 6 before Director W. P. Bartel of the commission's Bureau of Service. The code was prepared by the Bureau for the Safe Transportation of Explosives and Other Dangerous Articles, the services of which the commission may utilize in carrying out the provisions of the act of March 4, 1921, which authorized the commission to formulate regulations for the safe transportation of such articles, and the bureau will be prepared to confer with interested parties on June 5 preliminary to the hearing.

The act of 1921 did not limit the commissions' jurisdiction to carriers by railroad but authorized it to make regulations binding upon all common carriers and upon shippers making shipments via such carriers. In utilizing the services of the Bureau of Explosives the commission reserves the right to make entirely different requirements, or to revise all or any part of the proposed regulations. Some of the preliminary statements of the proposed code are as follows:

"The transportation of dangerous explosives by motor trucks or other vehicles on or over the public highways presents serious hazards to the public. Such transportation should be avoided in every instance where other practicable means of handling are available.

"To minimize the dangers to life and property incident to the necessary transportation of explosives and other dangerous articles in motor trucks or other vehicles by common carriers engaged in interstate or foreign commerce over public highways, the following regulations are prescribed. It is the duty of each such carrier and shipper of explosives and other dangerous articles by motor trucks or other vehicles to make these regulations effective and to thoroughly instruct their employes in relation thereto.

"These regulations apply to common carriers engaged in interstate or foreign commerce which transport explosives and other dangerous articles by motor trucks or other vehicles operated on or over public highways.

"For the purposes of these regulations; the term 'common carrier' includes any carrier by motor trucks or other vehicles which undertakes to transport property for the general public for compensation in interstate or foreign commerce. The term 'public highways' includes the public roads, alleys, highways, streets, avenues, boulevards, bridges and approaches thereto, and ways in the United States. The term 'motor trucks or other vehicles' means any vehicle or machine propelled by any power and used on the public highways for the transportation of property, except that the same shall not include any vehicle, locomotive, or car operated on rail or rails.

"Section 235 of the Act of March 4, 1921, requires the shipper of explosives and other dangerous articles to describe, pack, and mark his packages properly, and to inform the agent of the carrier of the true character of their contents. Heavy penalties are provided for the shipper who knowingly solicits the transportation of any explosive or other dangerous article without complying with these requirements, as well as for the carrier that knowingly accepts and transports them.

"No person or common carrier may under any circumstances ship or carry any explosive on any passenger vehicle in violation of Section 232 of the Act of March 4, 1921, and no person or common carrier may ship or carry any explosive or other dangerous article on any motor truck or other vehicle before written notice of the true character of the article is given the carrier, without being subject to the penalties of the Act.

"Explosives and other dangerous articles, except such as are forbidden, may be offered for transportation to carriers engaged in interstate or foreign commerce by motor truck or other vehicle and transported, provided they are as defined and are packed, marked, labeled, and described as provided in the regulations for freight, express and baggage services by rail, as modified by Part V hereof, applying to transportation by motor truck or other vehicle, and provided the method of manufacture and packing, insofar as they affect safe transportation, are open to inspection by a duly authorized representative of the initial carrier or of the Bureau of Explosives. Shipments that do not comply with regulations must not be delivered for transportation or transported."

Burlington Zephyr Averages 80.2 Miles an Hour on 140-Mile Run

An average speed of 80.2 miles an hour was maintained by the Chicago, Burlington & Quincy streamlined, stainless steel train on May 10, on its 140 mile run from Fort Wayne, Ind., to Englewood station in Chicago, over the Pennsylvania. This rate was accomplished against a head wind which measured 39.8 miles an hour at Fort Wayne.

Protection of Employees Sought in I.C.C. Report

Attempts to impose conditions in that connection in Chicago Great Western case

In a report by Division 4 of the Interstate Commerce Commission authorizing the acquisition by the Chicago Great Western of control by lease of the properties of the St. Paul Bridge & Terminal Company, dated May 2, the commissioners have attempted to impose conditions designed to afford specific protection for the train, yard, and section forces employed by the terminal company as requested at the hearing by representatives of the employees. After pointing out that the law requires, as a precedent to the approval of such an acquisition, a finding that it will be in the public interest, the report says that the interest of the employees is a public as well as a private interest and that it is therefore appropriate to impose just and reasonable requirements in the interest of the employees. In the circumstances the commissioners conclude that they should impose a condition "that the applicant maintain a separate seniority register for the employees of the terminal company employed in the territory now operated by it, and in future adjustments of employment resulting from necessary changes in traffic or operating conditions employees covered by such register will be given their pro rata share of the available work, and if, to maintain this relationship, transfer to other duties is required, no employee shall without his consent be in any worse position by reason of such transfer, in respect of the conditions of his service as a whole, including tenure of employment, remuneration, pensions, superannuation, sick fund, or other benefits or allowances, whether obtaining legally, or by customary practice of the constituents or subsidiary company, as compared with the conditions of service formerly obtaining."

According to the statement of the employees' representative at the argument, the report says, the terminal company force consists of 39 switchmen, one yardmaster, one roadmaster, 10 roundhouse employees, 19 section men and foremen, 20 firemen, and 17 engineers, a total of 107, not including extra men who are also on the seniority lists. A standard form of agreement is in effect, but the testimony indicated that the roundhouse employees were not included in any agreement. There is no established pension system, but gratuities for three former employees have been granted by the terminal company. As in the case of all outstanding contracts of that company, the obligation attached to

the labor agreement will be assumed by the applicant. "The employees insist that they be continued in their present jobs and that their seniority rights be not consolidated with those of any crafts on the applicant's system. The state commission and other interveners urge us to take such action as will accomplish these ends.

"It appears that if the men be taken over by the applicant, all questions involving seniority would be determined by the committees of the labor organizations themselves. The terminal employees are classed as yard men, while those of the applicant include both yard men and road men. As regards the status of the firemen, at least, the terminal firemen would be at a disadvantage in a general merger of the forces. The apprehension of the local employees is thus made clear. On the other hand, if their continued employment be guaranteed these men at once will be placed in a preferred position with respect to the applicant's forces performing like duties. The applicant is unwilling to give any guaranty or indemnity to the men and intimates that if such an action is made obligatory the proposal to acquire control will be dropped. It is argued that future conditions of traffic, etc., cannot be foretold. It could be stated also that, assuming no change in traffic or operating methods, it is impossible to ascertain the exact effect on labor, as a whole, which the change would produce, should the matter be left in the hands of the applicant and the employees without restrictive conditions.

"The welfare of the employees affected by this proposal is unquestionably one of the matters of public interest which we have to consider. As we view the present case, no employee should, of necessity, be deprived of employment or be in a worse position with respect to his compensation because of the applicant's control of the terminal."

Commissioner Mahaffie, concurring in part, said he agreed except as to the condition relating to the employees. "That condition, as I see it, can lead only to confusion and misunderstanding. Perhaps that obscurity of vision is my own fault because I confess that I do not understand what the condition means. It is clear, however, that the applicant is required to maintain a separate seniority list for the employees of the Terminal. As I understand it, seniority lists are not within the control of the carrier. Hence, the applicant, of itself, cannot comply with this condition. Compliance with it may work an injustice to various groups of employees on the two properties. It appears certain to bring about discrimination among them. But, however that may be, the question of handling the seniority position of employees either separately or by combination with the forces of the applicant should be left to be handled by negotiation between the parties concerned and whose interests are affected. We should not undertake to freeze it by an order in this proceeding."

Freight Shipped from Chicago 97 Per Cent on Time

Of the 113,594 package cars that left Chicago for points all over the country during the first three months of this year, 110,243, or 97.01 per cent, reached their destinations on time, according to figures compiled by the Chicago Association of Commerce. Only 2.75 per cent were one day late in arriving at their destination, and less than one-quarter of 1 per cent arrived more than one day late.

Longshoremen's Strike in N. Y.

Railways serving New York this week withdrew lighterage services from the piers of the Clyde-Mallory Steamship Line in that city as the result of a longshoremen's strike directed against that line. This action prevented a possible spread of the tie-up to other piers in New York harbor since organized employes on the lighters had threatened to refuse to work on equipment which served the piers where the longshoremen were on strike.

Triumph of Air-Conditioning

The Baltimore & Ohio reports that its Capitol Limited—Chicago to Washington, 825 miles in 17½ hours—traveled through the country-wide dust storm of May 10, throughout the whole of its trip, and the passengers came through in a condition of "complete cleanliness;" in other words, the air-conditioning system, with which the train is equipped, had functioned perfectly. The accumulation of dust in the intake boxes was equal to the quantity usually taken up in two weeks.

Southern Pacific Adds New Train

The Southern Pacific, on May 27, will add a new train to its San Francisco-Portland service, the schedule being 19 hr. 59 min. northbound and 19 hr. 52 min. southbound, or about 1 hr. 30 min. less than the present fastest schedule. The new train will be called the Cascade, the name being taken from trains No. 17 and No. 18 which, however, will continue to operate without this designation on a schedule of 21 hr. 20 min. The new train will leave San Francisco at 4 p. m. and will arrive in Portland at 11:59 a. m. the next day, while returning it will leave Portland at 4 p. m. and arrive in San Francisco at 11:52 a. m.

Southwestern Vegetable Rates Prescribed by I.C.C.

Following its order of last week prescribing revised rates on vegetables from the southeastern territory to other parts of the country, the Interstate Commerce Commission on May 14 made public a report and order prescribing an extensive revision of rates on certain vegetables and on cantaloupes, in carloads, between points in the Southwest and from the Southwest to destinations in other territories, based largely on percentages of the first-class rates. Chairman Lee, in a partially dissenting opinion, says that the rates prescribed are the same percentages of first class as prescribed from the Southeast, excluding Florida, but that the basic southwestern scale is about 15 per cent higher than the southeastern scale; and that "these differences in rate levels, coupled with the generally longer hauls to the large eastern markets from the Southwest than from the Southeast will, under the majority's findings, place the Southwest at a tremendous rate disadvantage with respect to a considerable portion of its vegetable traffic."

Senate Committee Holds Hearing on Port Bill

A sub-committee of the Senate committee on interstate commerce held a further hearing on May 14 on the bill, S.2477, introduced by Senator Goldsborough, to amend Section 3 of the interstate commerce act by adding: "the word 'locality,' as used herein, includes any port with respect to import, export, and coastwise traffic routed through it." The bill was introduced as a result of a recent Supreme Court decision that a port is not a "community" that can be discriminated against by rates on traffic routed through it. A previous hearing was held on May 2. An amendment for this purpose was recommended by Co-ordinator Eastman in his first report to the President and Congress.

Wharton Institute of Business Considers Transport

A round table conference on problems involved in transportation recovery was included in the program of the fifth annual Wharton Alumni Institute of Business which was held at the Wharton School of Finance & Commerce, University of Pennsylvania, Philadelphia, Pa., on May 17 and 18. Speakers on transportation subjects were A. J. County, vice-president in charge of finance of the Pennsylvania, Major Roy F. Britton, director of the National Highway Users Conference and Dr. G. Lloyd Wilson, professor of commerce and transportation at Wharton School. Dr. Emory R. Johnson, also of the Wharton School, was chairman of the transportation conference.

"Ad Valorem" Rates in Britain

Contract rates on an "ad valorem" basis, recently agreed upon by the British railways and F. W. Woolworth & Company, Ltd., have been approved by the Railway Rates Tribunal of Great Britain. The plan, as outlined in a recent issue of the Railway Gazette (London), provides that the railways will handle all of Woolworth's transportation work at rates equal to 4.25 per cent of the cost price of goods which the latter merchandises in its 513 stores situated throughout Great Britain.

In commenting on the agreement the Gazette points out that Woolworth's business is of a somewhat unique nature and thus also are its transportation needs. Any extensive adoption of the "ad valorem" rate system is therefore regarded as an improbable development.

Zephyr Will Attempt 1,034 Miles at 70 M.P.H.

The Zephyr, the new stainless steel streamlined train of the Chicago, Burlington & Quincy, is to be run from Denver, Colo., to Chicago, 1,034 miles, between dawn and dusk on May 26, in an effort to establish a long distance speed record and to signalize the re-opening of A Century of Progress on that day. It is expected that the run will be made in 15 hr. or at an average rate of about 70 miles an hour,

as compared with the schedule of 26 hr. 45 min. maintained by the Burlington's Denver-Chicago train, the Aristocrat, which averages 40 miles an hour including 40 stops enroute. The Zephyr's first schedule stop will be across Leif Ericson drive at the Fair. A few minutes later it will proceed to its exhibition space opposite the Travel and Transport building where it will remain for the duration of the Fair.

House Proposes Expenditure of $460,000,000 More for Highways

The House of Representatives on May 11 passed by a vote of 225 to 26 a bill authorizing the appropriation of $460,000,000 for highways. The bill provides for the appropriation of $400,000,000 on a basis similar to that provided for allotment to the states in the national industrial recovery act last year, the expenditure of which is in progress, and in addition $50,000,000 for roads and highways in parks and forests and $10,000,000 for emergency work in connection with the restoration of roads which may be damaged or destroyed by earthquakes, floods, etc. The bill is, however, merely an "authorization," not an actual appropriation, and had not been approved by the President or the Budget Bureau. The President on May 15, in asking for an additional appropriation of $1,322,000,000 for relief and public works purposes, proposed an allotment of only $100,000,000 for highway purposes.

Chicago-Southeast Freight Service Improved

The Chicago & Eastern Illinois, the Louisville & Nashville and the Nashville, Chattanooga & St. Louis, on May 14, established second-morning arrival freight service between Chicago and the Southeast, the new schedule making possible connections with morning trains of all lines beyond Atlanta, Ga., with a consequent saving of 12 to 24 hr. in the through service to principal points in Georgia, Florida and the Carolinas. Shipments leave Chicago over the Chicago & Eastern Illinois at 9:40 p. m.; leave Evansville, Ind., over the Louisville & Nashville at 9:30 a. m. the next day, leave Nashville, Tenn., over the Nashville, Chattanooga & St. Louis at 5:15 p. m. that afternoon and arrive in Chattanooga, Tenn., at 11:15 p. m. that night. Atlanta, Ga., is reached at 5:30 a. m. the second day. Under this schedule, the 733 miles between Chicago and Atlanta is covered in 31 hr. 50 min., or at the rate of 23.4 miles an hour.

D. L. & W. All-Expense Tours

The Delaware, Lackawanna & Western is this year featuring for summer vacationists four all-expense tours—the World's Fair and Great Lakes Tour, the Western Tour, the California Tour and the Northwest Tour.

The first will be operated every Sunday from July 8 to August 26 at rates on an all-expense basis beginning at $84. Three Western tours will be operated, leaving New York July 15, August 5 and August 19 and covering two weeks of travel and sight-seeing including Denver, Colorado Rockies, Salt Lake City, Yellowstone Park and the Chicago World's Fair; rates for these tours begin at $207. Two Northwest tours will be operated leaving New York on July 6 and August 10 and including in their itinerary Seattle, Lake Louise, Glacier National Park and Mount Rainier; rates from New York for this tour begin at $276. One tour to California and return extending over three weeks beginning July 8 will be operated at rates from $317 up.

New Industries on Norfolk & Western

A total of 152 new industries and additions which give employment to 8,131 persons were located along the Norfolk & Western during 1933. Of the total, 96 were industries involving an investment of $15,086,500, while the remainder were additions costing $3,920,000. The total investments represent an increase of nearly 31 per cent over 1932 and 161 per cent over 1931. The diversification of the industrial development in the territory is reflected in the fact that 31 plants were established for the manufacture of food and kindred products, 21 for textiles and their products, 18 for forest products, 12 for chemicals and allied products, 9 for iron and steel and their products and 7 for stone, clay and glass products. The expenditures for municipal improvements and similar building activities along the line of the railroad amounted to more than $16,143,000 while government emergency relief projects, for which appropriations have been secured, total $6,090,000; and federal government additions and improvements in the Norfolk (Va.) district, $1,853,000.

Senate Exempts Railroad Reports in Bill to Regulate Exchanges

During the debate on the bill to regulate securities exchanges the Senate on May 11 adopted an amendment relieving railroads and other carriers subject to the interstate commerce act from the requirements of the proposed law as to the filing of reports with the proposed new commission to be set up to regulate practices in connection with the issuance of securities. The House had adopted a somewhat similar provision in passing the bill. The amendment carries a provision, however, that the new commission may require that carriers file with it duplicate copies of reports or other documents filed with the Interstate Commerce Commission. The railroads, at the hearings on the bill, had asked to be exempted because of the elaborate nature of the reports they are already required to furnish to the Interstate Commerce Commission. Senator Kean, of New Jersey, in supporting the amendment, presented a letter from Co-ordinator Eastman, in reply to a question as to whether the railroads should be excluded from the act. Mr. Eastman said he was not especially familiar with the bill and the reasons urged for its various provisions, but that he greatly doubted the need for making applicable to the railroads the section authorizing the Federal Trade Commission to require reports. After his letter was written the bill had been amended to provide for a new commission rather than the Federal Trade Commission. He said he would suppose that the commission would not go much beyond requiring duplication of Interstate Commerce Commission reports. The amendment adopted also exempted the railroads from the section relating to the soliciting and giving of proxies.

Government Report on Port of New York

The Board of Engineers for Rivers and Harbors of the War Department, in cooperation with the United States Shipping Board, now a bureau of the Department of Commerce, has issued Port Series Report No. 20, on "The Port of New York." The first edition was prepared in 1924 as one of a series of reports covering the principal ports of the United States to meet the needs of the government and to supply data for the use of importers, exporters, manufacturers, railroads, steamship lines, and others interested in the development of harbors and the establishment of port and terminal facilities.

The report is in three parts, and contains information with regard to port and harbor conditions; port customs and regulations; services and charges; fuel and supplies; and facilities available for service to commerce and shipping, including piers, wharves, grain elevators, storage warehouses, bulk freight storage, dry docks and marine railways, marine repair plants, floating equipment, wrecking and salvage facilities; railroad, steamship and air lines, and their charges and practices in connection with terminal service. The foreign and domestic commerce of the port is discussed, and detailed statistical tables for the calendar years 1926 to 1930 are included showing the traffic of the port which comprises 39 localities and waterways under the Port of New York Authority.

Copies of the report may be obtained for $2.55 per set of 3 volumes upon application to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Employee Association Leader Dies

H. H. Parker, master mechanic of the Norfolk-Portsmouth Belt Line, died at Portsmouth, Va., on May 11 after an illness of several months. Mr. Parker, in 1931, aroused by the great harm done to the railroads by unregulated and undertaxed bus and truck competition, came to the conclusion that railroad employees in their capacity as citizens could do much to remedy the injustice by informing themselves and their neighbors regarding the fundamental principles involved and by demanding a recognition of these principles by those aspiring to public office. He began in his home city, Portsmouth, Va., to expound this view to railroad employees and, as a consequence, a so-called Railroad Employees and Taxpayers Association was organized at that point with Mr. Parker as its president. The movement became state-wide in Virginia and thence spread to many other states, in many of which associations of the type originated by Mr. Parker have become a potent force for the education of the citizens generally in the fundamentals of a sound policy with respect to all forms of transportation.

Mr. Parker was born in Wilmington, N. C., and prior to his service with the

Norfolk-Portsmouth Belt Line was in the employ of the mechanical department of the Seaboard Air Line.

Annual Meeting Freight Claim Division

The forty-third annual meeting of the Freight Claim division of the American Railway Association will be held at the Hotel Commodore, New York City, on May 22-24. The following program has been arranged.

Tuesday Morning

Address—J. J. Pelley, president, New York, New Haven & Hartford.
Address—R. H. Aishton, chairman of the board of the A.R.A.
Address—H. M. Moors, chairman of the Freight Claim division.
Memorial service.
Report of secretary.

Tuesday Afternoon

Prevention of freight loss and damage:
1. Report of Committee on Freight Claim Prevention by J. K. Lovell, general freight claim agent, N.Y.C., chairman.
   (a) Origin conditions—R. A. Podlech, chief of Loss and Damage Prevention Bureau, A. T. & S. F., Coast Lines.
   (b) Destination conditions—J. L. Webb, superintendent of stations and transfers, Pennsylvania, eastern region.
   (c) General conditions—F. E. Winburn, special representative, Freight Claim division.
   General discussion.
2. Inspection of fresh fruits, melons and vegetables:
   (a) Activities in East—W. S. Jensen, manager, Railroad Perishable Inspection Agency.
   (b) Activities in West—J. H. Howard, manager, Western Weighing and Inspection Bureau.
   (c) Government inspection service—C. W. Kitchen, assistant chief, U. S. Bureau of Agricultural Economics.
3. Containers and allied problems—Edward Dahill, chief engineer, A.R.A. Freight Container Bureau.
   General discussion.
4. Carload damage—Joseph Marshall, special representative, Freight Claim division.
5. General prevention activities—open discussion.

Action on report of Committee on Freight Claim Prevention.

Wednesday Morning

Address—M. J. Gormley, president of American Railway Association.
Announcement of tellers and arrangements for arbitration and appeal elections.
Election of Appeal committee.
Report of General committee.
Report of General committee regarding principles and practices.

Wednesday Afternoon

Report of Committee on Rules of Order.
Report of tellers on Appeal Committee election.
Election of Arbitration committees.
Election of officers.
Selection of dates and place for 1935 annual session.
Report of Committee on Freight Claim Rules.

Thursday Morning

Report of tellers on Arbitration Committee elections.
Report of Committee on Freight Claim Rules (continued).

Thursday Afternoon

Report of Committee on Freight Claim Rules (continued).
Announcement of personnel of Arbitration committees.
Adoption of amended reports as a whole.

Rail Motor Cars in Italy

The Italian State railways have recently placed in service a number of rail motor cars built by Fiat and will greatly extend the service of such equipment as delivery is made of additional units. These cars are of a new design and are known by the general type name of Littorina in honor of the new town Littoria built on the reclaimed Pontine marshes. Three sizes are used to meet varying traffic requirements. The smaller size seats 48 passengers, has a body length of 48 ft. 6½ in., weighs 27,550 lb., and a rated speed of 70 m.p.h. The intermediate size seats 64 passengers, has a body length of 57 ft. 9 in., weighs 29,750 lb., and a rated speed of 65 m.p.h. The largest size seats 80 passengers, has a body length of 72 ft., weighs 44,080 lb. and a rated speed of 80 m.p.h.

These cars are conservatively streamlined, have trucks and under parts shrouded and are noticeable for the smoothness of exterior surfaces and freedom from projections which would add to air resistance. They may be operated from either end. The motive power in all cases is a six-cylinder gasoline engine of 120 hp. mounted directly on a power truck with geared mechanical drive to one axle. The two smaller cars have one power and one trailing truck, while the largest size has a power truck at each end. All trucks have steel-tired wheels and roller journal bearings. Extension use of rubber pads and bushings on trucks and engine mountings is employed to minimize noises.

A light weight construction being considered of prime importance, special steels were employed where they could be used to best advantage. Aluminum sheets were used for covering the roof and side walls and for the under floor and aluminum castings for certain other parts. Another means employed to keep down the weight was the extensive use of welding for building-up the frame structure, rivets being used in as few places as possible. The low weights previously mentioned are evidence of the care used in working out the designs.

Budget For Truck Code Authority Approved

Approval of the collection of a $3 per "for hire" vehicle contribution from members of the industry to defray the cost of administering the trucking industry code was announced on May 12 by National Recovery Administrator Hugh S. Johnson. In the same order the Administrator stayed the proposed registration of "not for hire" vehicles by the trucking code authority and suspended indefinitely the likewise proposed 90 cents per vehicle registration fee.

Division Administrator Sol A. Rosenblatt, in his report to General Johnson recommending the latter's approval, said that as a result of the protest entered at the public hearing against the 90-cent fee for registration and reporting of "not for hire" vehicles it was decided that good cause had been shown why the code authority should not proceed immediately to the collection of the 90-cent fee for registration and reporting of "not for hire" vehicles and that final determination of this matter should be stayed pending the outcome of conferences with the code authorities of the affected industries.

The budget submitted by the trucking code authority and based only on the collection of the $3 fee per "for hire" vehicles contemplated an aggregate revenue, from an estimated 425,000 vehicles, of $1,275,000 as against an estimated requirement of $1,714,158 to finance the operations of the national code authority, 12 regional and 50 state code authorities. The 425,000 vehicles are operated by approximately 250,000 firms and individuals. The indicated deficit was expected to be met by various economies and by obtaining a large amount of voluntary labor in code administration, particularly by state code authorities, and by the use of the services, wherever possible, of existing government agencies. Division Administrator Rosenblatt pointed out that approximately 96.5 per cent of the budget will be absorbed by "mandatory functions" under the code and that the remaining 3.5 per cent is set up to provide for "unpredictable studies, services, and other types of activities that may be required by the National Recovery Administration and other governmental agencies in the ordinary administration of the code."

As approved by the Administrator, the budget proposes expenditures of $134,400 for administrative and clerical employees by the national code authority, $346,118.50 for similar services by the 50 state code authorities, and $186,000 for expenses of the 12 regional code authorities.

Politics and Grade Crossing Elimination

The matter of grade-crossing removal still rests deep in the silences. It is a striking example of the fact that even under a New Deal, "politics" is not wholly adjourned. Since 1920, many thousands of new grade-crossings have been made over railroad tracks long in existence as a result of highway construction for the benefit of motors and trucks. No shred of benefit has accrued to railroads from these; on the contrary, they have tended to increase railroad expenses. Removal of grade-crossings would provide a good deal of labor well scattered through the country. Why would it not have been a good "public work"? If it were necessary to appease public opinion, elimination could have been confined to those crossings rendered necessary by new highways, leaving the railroads to deal with the rest. One would suppose that such an arrangement would have made the thing sufficiently "safe" from a "political" point of view. Yet nothing has been done; it does not seem to have been even seriously suggested.

Thomas F. Woodlock in the Wall Street Journal

Motorization on German Railroads

The motorization of railroad vehicles, together with the extension of highway transport services by the German National Railroad Company, is regarded as of utmost importance for German national economy, according to Commercial Attache Douglas Miller, Berlin, in a recent report to the U. S. Commerce Department.

This development, Mr. Miller points out, has been the result of reduced traffic in recent years and increasing competition from private truck operators and airplanes which forced the railroad company to use smaller units than complete trains, to increase the speed and to operate the small units more frequently. The only possibility of fulfilling these requirements was seen in the operation of self-propelled cars for passenger traffic and motor truck service for freight traffic.

Progress in the construction of Diesel

Continued on next left-hand page

motors, the report states, has enabled the railroad company to develop an extensive program for the construction of special cars powered with Diesel motors, which are capable of considerably higher speed. These Diesel-motored cars are to be placed in operation in the course of the next few years for long distances. The ultimate aim is to establish a service which will permit travel from Berlin to any other large city in Germany and return in one day, allowing sufficient time between arrival and departure to attend to business matters, Mr. Miller reported.

At the same time the railroad has adopted extensive use of motor trucks for freight traffic. In the fall of 1933, orders were placed for 1,140 trucks and negotiations are now open for an additional 720. A sum of 30 million marks has been provided for this purpose. The introduction

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled from 148 Monthly Reports of Revenues and Expenses Representing 149 Class I Steam Railways

FOR THE MONTH OF MARCH, 1934 AND 1933

Item	United States		Eastern District		Southern District		Western District	
	1934	1933	1934	1933	1934	1933	1934	1933
Average number of miles operated	239,300.98	241,271.37	59,121.08	59,559.41	45,456.34	45,868.10	134,723.56	135,843.86
Revenues:								
Freight	$240,990,526	$175,323,874	$110,606,095	$75,966,025	$50,027,932	$37,249,002	$80,356,499	$62,108,847
Passenger	27,440,066	21,916,827	16,529,690	13,260,977	4,231,972	3,143,306	6,678,404	5,512,544
Mail	7,871,997	7,691,781	3,081,914	3,040,010	1,380,120	1,337,046	3,409,963	3,314,725
Express	5,081,646	3,257,517	2,116,940	1,449,451	1,151,552	687,780	1,813,154	1,120,286
All other transportation	6,388,921	5,474,013	3,367,154	3,160,760	647,685	484,163	2,374,082	1,829,090
Incidental	4,858,076	3,977,585	2,654,218	2,329,866	827,590	620,527	1,376,268	1,027,192
Joint facility—Cr.	736,941	639,363	238,949	213,098	158,149	129,971	339,843	296,294
Joint facility—Dr.	190,534	178,652	50,935	48,670	16,585	17,029	123,014	112,953
Railway operating revenues	293,177,639	218,102,308	138,544,025	99,371,517	58,408,415	43,634,766	96,225,199	75,096,025
Expenses:								
Maintenance of way and structures	28,507,738	22,629,337	12,122,352	8,982,265	6,035,499	4,815,840	10,349,887	8,831,232
Maintenance of equipment‡	57,552,752	45,865,737	27,025,423	20,105,553	10,778,807	8,698,833	19,748,522	17,061,351
Traffic	7,290,004	7,014,158	2,728,310	2,589,290	1,408,226	1,388,421	3,153,468	3,036,447
Transportation	101,632,876	86,821,586	49,609,866	40,408,625	17,332,906	14,848,219	34,690,104	31,564,742
Miscellaneous operations	2,196,706	1,828,400	1,097,789	951,590	335,328	241,170	763,589	635,640
General	12,252,844	11,981,272	5,384,163	5,158,253	2,088,961	1,957,383	4,779,720	4,865,636
Transportation for investment—Cr.	181,903	416,094	55,233	262,055	23,325	44,019	103,345	110,020
Railway operating expenses	209,251,017	175,724,396	97,912,670	77,933,521	37,956,402	31,905,847	73,381,945	65,885,028
Net revenue from railway operations	83,926,622	42,377,912	40,631,355	21,437,996	20,452,013	11,728,919	22,843,254	9,210,997
Railway tax accruals	21,644,156	22,016,424	9,006,000	8,836,556	4,481,995	4,475,174	8,156,161	8,704,694
Uncollectible railway revenues	77,871	81,710	33,702	34,170	16,819	9,223	27,350	38,317
Railway operating income	62,204,595	20,279,778	31,591,653	12,567,270	15,953,199	7,244,522	14,659,743	467,986
Equipment rents—Dr. balance	7,198,285	6,551,872	3,592,701	3,175,810	610,484	522,751	2,995,100	2,853,311
Joint facility rent — Dr. balance	2,968,462	2,922,388	1,668,076	1,548,376	369,585	302,625	930,801	1,071,387
Net railway operating income	52,037,848	10,805,518	26,330,876	7,843,084	14,973,130	6,419,146	10,733,842	*d 3,456,712*
Ratio of expenses to revenues (per cent)	71.37	80.57	70.67	78.43	64.98	73.12	76.26	87.73
‡ Includes:								
Depreciation	15,491,865	14,911,227	6,860,509	5,842,581	2,908,140	3,008,154	5,723,216	6,060,492
Retirements	500,996	1,107,307	89,667	896,149	136,235	50,945	27,094	160,213

FOR THREE MONTHS ENDED WITH MARCH, 1934 AND 1933

Average number of miles operated	239,426.50	241,330.19	59,155.04	59,563.33	45,479.46	45,868.12	134,792.00	135,898.74
Revenues:								
Freight	$651,425,677	$523,794,138	$293,209,553	$228,238,263	$136,620,272	$114,196,300	$221,595,852	$181,359,575
Passenger	80,016,118	72,191,511	48,720,853	43,452,472	11,925,849	9,899,263	19,369,416	18,839,776
Mail	22,702,081	22,596,425	8,825,778	8,824,830	4,001,028	3,910,010	9,875,275	9,861,585
Express	11,812,335	7,960,650	4,724,527	3,420,863	2,938,928	1,899,681	4,148,880	2,640,106
All other transportation	17,796,377	16,378,570	9,459,070	9,443,484	1,775,365	1,468,381	6,561,942	5,466,705
Incidental	14,269,597	12,488,916	7,881,878	7,290,564	2,313,338	1,877,069	4,074,381	3,321,283
Joint facility—Cr.	2,149,409	1,971,684	702,944	655,538	459,627	384,238	986,838	931,908
Joint facility—Dr.	552,257	570,436	152,310	152,870	47,916	56,153	352,031	361,413
Railway operating revenues	799,619,337	656,811,458	373,372,293	301,173,144	159,986,491	133,578,789	266,260,553	222,059,525
Expenses:								
Maintenance of way and structures	78,789,511	66,925,498	33,146,176	26,962,833	16,936,685	14,691,747	28,706,650	25,270,918
Maintenance of equipment†	160,774,484	138,447,499	74,540,599	61,026,025	30,192,115	26,660,124	56,041,770	50,761,350
Traffic	21,677,279	21,286,437	8,181,888	7,917,487	4,237,240	4,135,672	9,258,651	9,233,278
Transportation	289,972,685	260,881,550	140,453,020	121,337,168	49,012,609	44,403,106	100,507,056	95,141,276
Miscellaneous operations	6,490,058	5,606,098	3,271,506	2,861,423	922,485	729,541	2,296,067	2,015,134
General	36,448,053	36,477,763	15,990,642	15,731,960	6,172,310	6,113,582	14,285,101	14,632,221
Transportation for investment—Cr.	460,775	886,622	126,397	448,251	47,135	116,800	287,243	321,571
Railway operating expenses	593,691,795	528,738,223	275,457,434	235,388,645	107,426,309	96,616,972	210,808,052	196,732,606
Net revenue from railway operations	205,927,542	128,073,235	97,914,859	65,784,499	52,560,182	36,961,817	55,452,501	25,326,919
Railway tax accruals	62,986,041	65,191,952	25,692,971	25,854,186	12,963,699	13,066,704	24,329,371	26,271,062
Uncollectible railway revenues	269,807	227,121	132,117	86,482	57,465	26,295	80,225	114,344
Railway operating income	142,671,694	62,654,162	72,089,771	39,843,831	39,539,018	23,868,818	31,042,905	*d 1,058,487*
Equipment rents—Dr. balance	21,489,328	19,587,278	10,591,760	10,019,209	1,828,169	1,384,464	9,069,399	8,183,605
Joint facility rent — Dr. balance	8,934,636	8,542,578	4,958,148	4,442,971	1,068,592	933,323	2,907,896	3,166,284
Net railway operating income	112,247,730	34,524,306	56,539,863	25,381,651	36,642,257	21,551,031	19,065,610	*d 12,408,376*
Ratio of expenses to revenues (per cent)	74.25	80.50	73.78	78.16	67.15	72.33	79.17	88.59
† Includes:								
Depreciation	46,372,779	44,629,857	20,443,613	17,385,487	8,746,082	9,043,101	17,183,084	18,201,269
Retirements	1,105,374	2,951,214	304,800	2,520,382	386,744	155,313	413,830	275,519

d Deficit or other reverse items.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

of motor truck service, the report states, is expected to simplify and reduce costs in shipments of l.c.l. freight. This aim is to be realized by a much more extensive use of containers. The German railroad has concentrated attention on the development of small containers to simplify the handling of small quantities of merchandise. Small containers are regarded as the most suitable cargo for motor trucks, as their use enables a shortening of the time required for loading and, therefore, permits the utmost utilization of the trucks. Recently a new type of bucket truck has been placed in operation which is designed specially for carriage of coal, coke, ore and similar products.

The railroad has also extended motorization to switching operations. Whereas this work was formerly done by the heavy road locomotives or special switching locomotives, the change has been brought about by the construction of small motorized locomotives.

Trucking Industry Objects to Proposed Rail and Water Rates

The National Code Authority for the Trucking Industry has filed a statement of exceptions with the Interstate Commerce Commission to the report proposed by Examiner Mohundro and R. V. Pitt, assistant director of the Bureau of Traffic, recommending that rail carriers in official territory be granted fourth section relief in establishing commodity rates "to meet truck competition." The report recommends that such rail carriers be permitted to reduce rates by as much as 40 per cent from present levels in some instances.

The real purpose of this application, the code authority contends, is "to eliminate the service of truck transportation," rather than to meet competitive conditions. It is argued that such relief, if granted, would be uneconomic and harmful to the rail carriers themselves; that it would result in greater loss of revenue; that experience has shown that such methods, when applied, rarely result in recapture of tonnage. It is pointed out that trucking rates are being stabilized under the code for the trucking industry and that under the operation of the code much of the occasion for complaint of the railroads as to trucking rates is eliminated.

"It is respectfully suggested that rather than give blanket authority to the rail carriers to reduce rates to meet truck competition, they should be required to present specific facts to justify such reductions in each particular case. It is suggested that your commission could better protect the carriers from their own folly if, in support of each application, they were required to make a showing of reasonable cause, before the rate reduction would be permitted. In this respect petitioners would be glad to co-operate in assisting in checking these situations with factual study of the particular competitive conditions complained of."

Harold S. Shertz, of counsel for the National Code Authority and the American Trucking Association, Inc., appeared on May 8 before the U. S. Shipping Board Bureau as intervener in a hearing on rates proposed by certain intercoastal and coastwise steamship companies carrying interstate commerce and including Sacramento, Calif., as a port of call. He contended that if the board sustained the rates filed by the steamship lines to inland waterway points, such rates would include free delivery from these inland ports to ports of call. He said truck operators, under the code, were required to make a charge for all deliveries, at least in an amount sufficient to cover the cost of such transportation, adding that the proposed rates, if put into effect, would create a serious competitive condition and would be demoralizing to the trucking industry. He further suggested co-operation between governmental agencies to bring about intelligent adjustments of rates and to stop harmful rate wars. The necessity of preserving truck transportation in full vigor was emphasized.

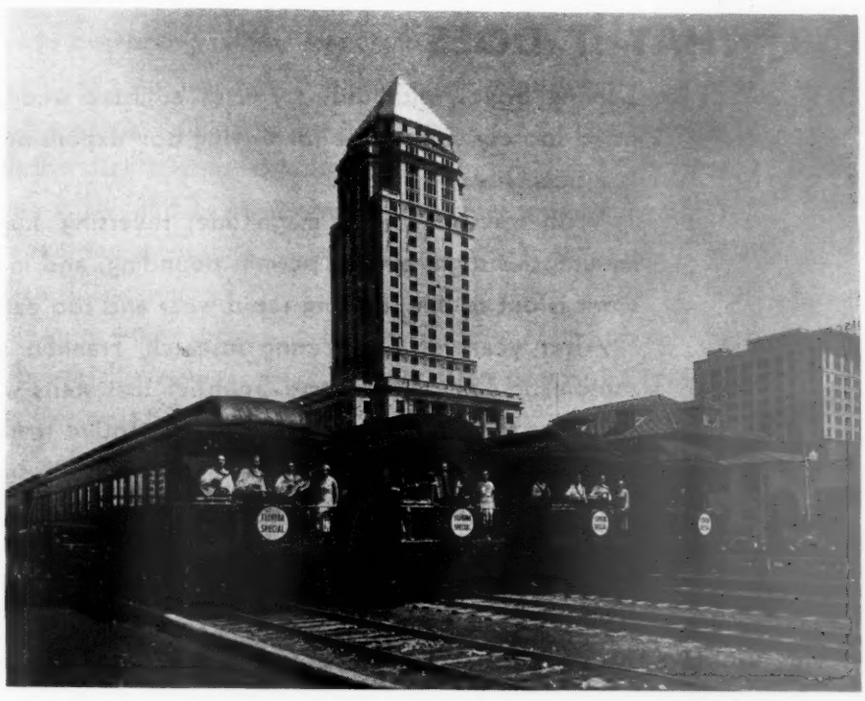
Operation of Recreation Car Found Justified as Traffic Builder

The past winter season's experiment of the Florida East Coast and the Atlantic Coast Line in the operation of a recreation car with hostess and orchestra on the New York-Miami Florida Special has been found "to have been eminently successful as a travel attraction." The Florida Special showed an increase of 400 per cent in volume over traffic of the previous season and while it is conceded that "the fast schedule of the train and the impetus which lower rail rates gave Florida travel this winter" aided materially, it is nevertheless felt that the recreation car was an important factor in the Florida Special's popularity.

The reasoning back of the recreation car idea was that passengers even on the fastest trains grow restless, tire eventually of reading and crave some sort of amusement besides gazing at the passing scenery. If the time passes quickly the journey seems accordingly that much shorter and more pleasant. Then, too, something to give the Florida Special distinction in addition to speed was desirable as a means of lifting it out of the ordinary class and giving the public as well as the agents something new to talk about.

Early in January of this year the Florida Special began its forty-seventh consecutive season on a fast 28-hour run between New York and Miami with a recreation car among its regular equipment. Passengers were given little yellow leaflets describing the new facility. The recreation cars themselves were unpretentious, most of them being remodeled parlor cars with ample seating capacity. Bridge tables and chairs were provided as well as an assortment of games for children. The three-piece orchestra played from a vantage point in the middle of the car. A carefully chosen hostess, young enough to be decorative but old enough to be tactful and command respect, presided over this realm of amusement and endeavored to see that everyone had a good time. One of the duties of the hostess was to break the social ice and get people acquainted. According to the answers to questions on survey cards distributed to the passengers on the train to determine their reaction, music ranked first in favor, bridge next. A few of the specially-designed cars were equipped with a miniature gymnasium. Dancing to the orchestra's music was thoroughly possible and one of the advertised features. The three-piece orchestras, many of them Hawaiian trios, were recruited from professional musicians. Afternoon and evening concerts were given.

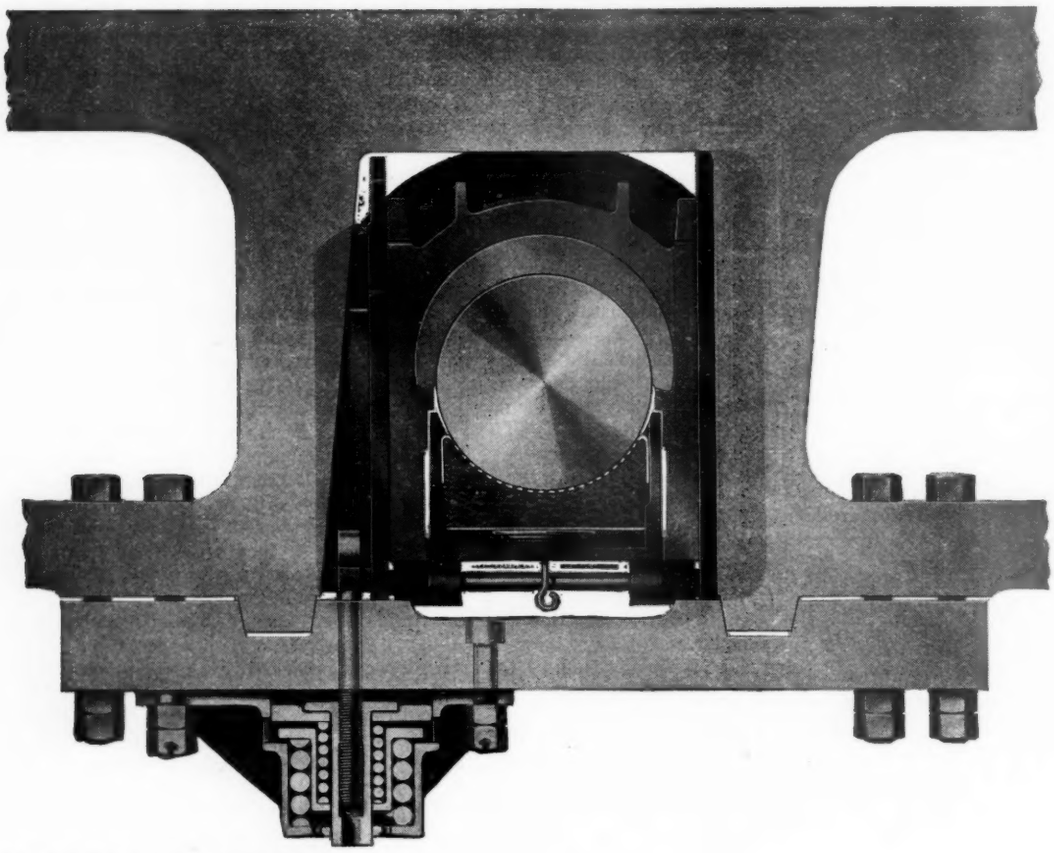
In spite of the fact that the Florida Special and its recreation car feature were backed by only modest advertising, the public soon "caught on." Traffic records show that during the 96 days of operation this season, the train handled over 20,000 southbound passengers as compared with only 6,073 during its 63 days of operation during 1933. Northbound 19,500 pas-



Four Sections of the Florida Special with Their Orchestras and Hostesses at Miami

Continued on second left-hand page

New



WHAT IT DOES

Driving boxes, with ordinary hand adjusted wedges, are deliberately fitted loosely to provide for driving box expansion in operation. This is a necessity.

With forces of great magnitude, reversing hundreds of times a minute, this slight air gap permits pounding, and in time all the motion work is out of line, causing rapid wear and too early replacements.

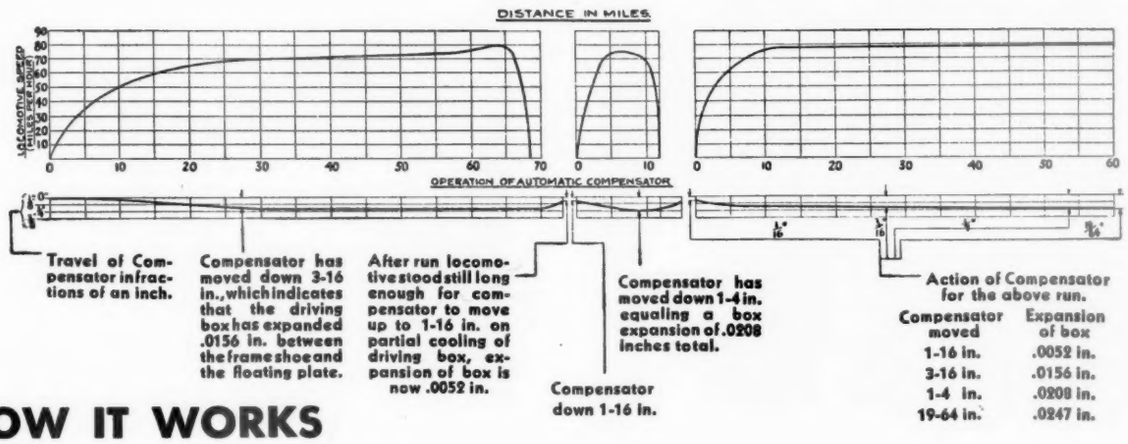
After years of engineering research, Franklin has developed the Automatic Compensator and Snubber that starts with a proper fit and maintains this fit at all times as the locomotive works.

It automatically eliminates all air gap in the driving box assembly, yet permits expansion and contraction of the driving box and automatically compensates for wear as wear occurs.

Reference to the curve indicates how accurately the Franklin Automatic Compensator and Snubber does this.

The FRANKLIN AUTOMATIC COMPENSATOR and SNUBBER

Protects the Locomotive Foundation



HOW IT WORKS

With the Franklin Automatic Compensator and Snubber, the driving box assembly is set up without any air gap. All bearing surfaces are a predetermined pressure sliding fit.

As the driving box temperature rises at speed, and the box expands, the Automatic Compensator eases off and moves downward without permitting air gap—as the box cools and contracts, the compensator moves upward, maintaining a constant predetermined pressure fit. All box fits are automatically maintained alike, thus maintaining accurate alignment of all moving parts, and preventing undue wear.

Opposed to movement beyond the predetermined amount provided by the compensator is the locked up resistance of the Snubber, which automatically becomes effective only when required to dampen the oscillation of the driving box. This powerful force is directed through a compensating plate and exerts a strong horizontal pressure against the driving box as it moves between the pedestals. Consider the shock absorber of your automobile and you will visualize this action.

This freedom from lost motion or stuck boxes, provided by the Franklin Automatic Compensator and Snubber, substantially reduces maintenance and extends the service of the locomotive. Inquire about this new help in reducing maintenance expense.

No locomotive device is better than the replacement part used for maintenance. Genuine Franklin repair parts assure accuracy of fit and reliability of performance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

sengers used this train on its 96 trips as compared with only 3,000 passengers on the 63 trips the previous year.

More than one section of the train was frequently necessary, creating a knotty problem of keeping enough orchestras and hostesses on call to meet traffic fluctuations. On 39 days of the 96-day period, the train was operated southbound in two sections and northbound on 42 days. Three sections of the train were required on 7 days southbound and 4 days northbound; on five days during the season, four complete sections were operated. In every case each section was fully equipped with recreation car, hostess and orchestra. Many of the trains were so heavily loaded as to require two dining cars.

Western Roads Appoint Coal Committees

The seven-hours-per-day law governing coal mining operations under the codes has created problems for railroads in determining coal prices and arranging contracts for purchases. This has resulted in the western railroads organizing committees of railway purchasing officers to follow developments in each state and to represent the railroads in negotiations with producers where joint action is desired. The work of these committees is co-ordinated by the western group committee on codes of the Purchases and Stores division, American Railway Association, of which D. C. Curtis, chief purchasing officer, Chicago, Milwaukee, St. Paul & Pacific, is chairman.

The Purchases and Stores division has also arranged for the study of the Bolt, Nut and Rivet code by the appointment of a committee, consisting of H. T. Shanks, general purchasing agent, Louisville & Nashville; P. Hunter, purchasing agent, Chicago, Burlington & Quincy; U. K. Hall, general purchasing agent, Union Pacific; W. G. Black, vice-president, Chesapeake & Ohio; and J. H. Lauderdale, general purchasing agent, Missouri Pacific.

The coal committees for each state are as follows:

Illinois

P. Hunter, purchasing agent, Chicago, Burlington & Quincy (chairman); J. H. Lauderdale, general purchasing agent, Missouri Pacific, St. Louis; A. C. Mann, vice-president and purchasing agent, Illinois Central; T. J. Frier, purchasing agent, Wabash; H. W. Burtness, assistant to president, Chicago Great Western; C. H. Kenzel, purchasing agent, Elgin, Joliet & Eastern; E. C. Hoffman, purchasing agent, Minneapolis & St. Louis; M. J. Collins, general purchasing agent, Atchison, Topeka & Santa Fe; F. G. Nicholson, vice-president and general manager, Chicago & Eastern Illinois.

Iowa

F. D. Reed, purchasing agent, Chicago, Rock Island & Pacific (chairman); A. E. Johnson, fuel agent, Chicago, Milwaukee, St. Paul & Pacific; P. Hunter, purchasing agent, Chicago, Burlington & Quincy.

Missouri

T. J. Frier, purchasing agent, Wabash (chairman); J. G. Stuart, assistant purchasing agent, Chicago, Burlington & Quincy; C. H. Hoinville, assistant to general purchasing agent, Atchison, Topeka & Santa Fe; M. H. McGlynn, fuel agent, Chicago, Rock Island & Pacific; G. E. Scott, purchasing agent, Missouri-Kansas-Texas; B. B. Brain, purchasing agent, Kansas City Southern; J. H. Lauderdale, general purchasing agent, Missouri Pacific.

Oklahoma and Kansas

B. T. Wood, chief purchasing officer, St. Louis-San Francisco (chairman); J. J. Conn, assistant purchasing agent, Atchison, Topeka & Santa Fe; G. E. Scott, purchasing agent, Missouri-Kansas-Texas; B. B. Brain, purchasing agent, Kansas City Southern; J. H. Lauderdale, general purchasing agent, Missouri Pacific.

Utah, Colorado, New Mexico and Wyoming

W. B. Hall, purchasing agent, Denver & Rio Grande Western (chairman); W. C. Weldon, purchasing agent, Colorado & Southern; F. R. Schwartz, purchasing agent, Atchison, Topeka & Santa Fe; C. F. Post, purchasing agent, Western Pacific; U. K. Hall, general purchasing agent, Union Pacific; C. E. Kelsey, purchasing agent, Denver & Salt Lake; G. M. Betterton, purchasing agent, Southern Pacific; A. J. MacLean, general purchasing agent, Bingham & Garfield; S. W. Baker, purchasing agent, Midland Terminal, Colorado Springs.

Indiana Coal Up Ten Cents

The chairmen of the various state committees will serve as a general committee. A special committee for Indiana has also been appointed, as follows: D. C. Curtis, chief purchasing officer, Chicago, Milwaukee, St. Paul & Pacific; F. G. Nicholson, vice-president and general manager, Chicago & Eastern Illinois; H. W. Burtness, assistant to president, Chicago Great Western; J. H. Liebenthal, purchasing agent, Chicago, Indianapolis & Louisville; W. C. Bower, vice-president of purchases and stores, New York Central; G. H. Schultz, assistant purchasing agent, Pennsylvania; C. W. Yeamans, purchasing and supply agent, Chicago & Western Indiana.

The Indiana committee has settled with the Indiana operators on a basis of 10-cents-a-ton increase over the posted prices in March. The new price was effective April 16, with the price of screenings to be adjusted between the individual railroad and the operators on its line.

Need for a Motive Power Modernization Program

Mr. Castle notifies the Co-ordinator that he will shortly furnish data from which "the economic life of motive power from the standpoint of cost of repairs" can be estimated. A locomotive is today one of the most expensive "plants" in existence, judged from this point of view.

It is this writer's guess that there are very few places in our industrial structure where a large expenditure of capital would find so safe a base and so prompt a return. Strange that it has not at least received more attention! With a billion and a half of money spent over ten years and financed on the equipment trust principle, the entire power plant of Class I roads could be modernized probably without a dollar of burden upon railroad treasuries, and perhaps with no small profit besides—not to mention the employment furnished.

One can understand why railroad managements have not found it possible to move on their own resources, but it is hard to see where government credit could have been more safely employed with more permanent results.

Thomas F. Woodlock in the Wall Street Journal

Equipment and Supplies

P.W.A. Loans Provide Increased Shop Employment

P. W. A. loans to railroad companies for repairing cars and engines in their own shops will result in the payment of $11,525,000 in wages to railroad shopmen who make the repairs and the purchase of $15,790,000 worth of materials for them to use, according to a report to Public Works Administrator Harold L. Ickes by Frank C. Wright, director of P. W. A.'s Division of Transportation Loans. Equipment repair is but a small part of the P. W. A. railroad program.

Most of the $15,970,000 spent for materials will find its way into the pockets of men employed in iron and coal mines, forests, factories and mills where the raw materials are produced, processed and fabricated into the forms in which they will go into the hands of the railroad shopmen.

During the depression the railroad shop towns were bad spots on the unemployment map. With declining revenues and stationary or rising fixed charges the railroads were forced to retrench in every direction on their operating expenses. As soon as Mr. Wright was appointed to head the Division of Transportation Loans he undertook to do something to improve employment conditions in the railroad shop forces and in the industries that supply the materials for their use, with the results reported by him to Administrator Ickes.

Inquiries were directed to the managements of railroad companies, asking whether they would be willing to undertake repair work that would put their shopmen back to work and increase purchasing power in the shop towns if P. W. A. would loan them money at 4 per cent interest on reasonable security. As an inducement to the companies to begin deferred repair work and call men back to work P. W. A. offered to make the loans without interest the first year, the 4 per cent rate to begin the second year.

Loans for equipment repairs have been made to the following railroads, and their shopmen will receive the $11,525,000 in

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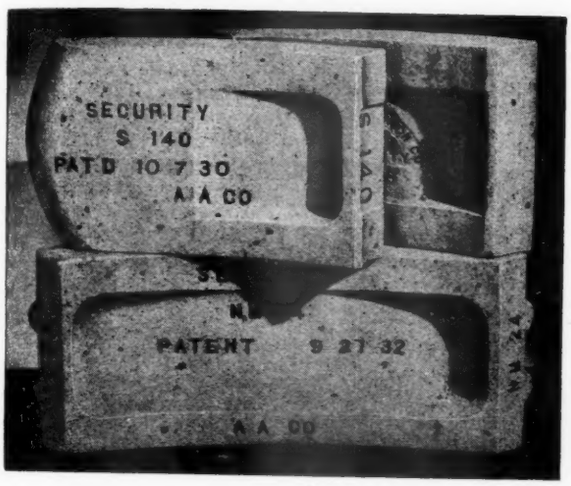
WOULD YOU SPEND $1.00 FOR BRICK...

...TO SAVE $10.00 IN COAL



You accept locomotive arches as a matter of course; as a fundamental in locomotive design. But the Arch can only give you the full economy when each course and each arch brick is in place. Paring down the arch in an effort to save $1.00 costs you $10.00 for the extra fuel wasted by the shortened arch.

These proportions have been established by repeated tests on various types of motive power. So against any "saving" in arch brick expense by cutting down the arch, mark up $10.00 on the loss side of the ledger.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

NRA MEMBER U.S. WE DO OUR PART

AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists

wages: Baltimore & Ohio; Boston & Maine; Delaware, Lackawanna & Western; Great Northern; Illinois Central; Lehigh Valley; Southern Pacific; Chicago, Milwaukee, St. Paul & Pacific; New York, New Haven & Hartford; Wabash (receivers); Erie; Interstate. In the shops of these companies 1,552 locomotives, 1,956 passenger cars and 33,323 freight cars will be repaired.

Orders placed for rails, fastenings, locomotives, cars, and materials by railroads in March as a result of the P. W. A. loans totalled nearly $31,000,000 in March, according to a statement issued by the P. W. A. It listed the following items as to the value of orders placed and reported from October 1 to March 31: Railway cars, $22,672,511; locomotives, $2,587,995; rail fastenings, $629,658; steel rails, $6,998,-937; railway switches, $357,894.

The total of P. W. A.'s railroad loan allotments for all purposes is $199,607,800 and Administrator Ickes has signed contracts covering $182,074,000 of this. The balance will be under contract shortly. All but $5,000,000 will be spent by the end of this year, most of it before cold weather comes.

Additional amounts are expected to be made available for loans to railroads from the appropriation of $1,322,000,000 for relief and public works purposes asked by the President in a message to Congress on May 15.

Boston & Maine Orders Locomotives and Passenger Cars to Cost $2,500,000

The Boston & Maine has placed orders for new equipment totaling approximately $2,500,000, of which about $950,000 will be spent in New England. The orders will provide considerable employment in various parts of the country. The purchases include:

Twenty-one suburban passenger coaches and the 10 air-conditioned de-luxe coaches reported in the *Railway Age* of May 12, to be built at the plant of the Pullman-Bradley Car Corporation.

Five 4-6-2 type passenger locomotives to be built at the plant of the Lima Locomotive Works.

Five 4-8-2 type freight and passenger locomotives to be built at the Baldwin Locomotive Works.

One Diesel-electric road locomotive unit or motor car, with body built by the St. Louis Car Company; Diesel engine built by Ingersoll-Rand Company, electrical apparatus built by the General Electric Company.

One Diesel-electric road locomotive unit or motor car, with body built by the Bethlehem Steel Company; engine and electrical apparatus to be built by the Westinghouse Electric & Manufacturing Company.

One Diesel-electric switching locomotive, Diesel engine to be built by McIntosh & Seymour Company; chassis and trucks by American Locomotive Company, and electrical equipment by the General Electric Company.

One Diesel-electric switching locomotive, with engine to be built by Ingersoll-Rand Company; chassis and trucks, also electrical equipment to be built by the General Electric Company.

The 21 suburban passenger coaches will be of a new type, seating 96 persons. They will be constructed of light-weight alloy steel, weighing approximately 84,000 lb. as compared with a weight of 130,000 lb. of the latest type coaches now in service. The cars will be equipped with roller bearings, and will have insulated trucks which will eliminate a large amount of vibration and noise.

The 10 de-luxe coaches will be air-conditioned and in addition will have insulated trucks and roller bearings.

The two Diesel-electric road locomotive units or motor cars, each of 800 hp. will be of streamlined design. They will be of a three-section type, the forward section containing the motive power equipment, the middle section a mail-handling compartment, and the rear section a baggage compartment. Each of the units will be capable of hauling five coaches as trailers. They will be used in passenger service between Boston, Mass., and White River Junction, Vt.; Boston and Woodsville, N. H.; and in commuting service on the Gloucester branch.

The five new 4-6-2 type locomotives will be equipped with boosters enabling them to start the heaviest trains smoothly. The five new 4-8-2 type locomotives will be interchangeable for use in freight and passenger service.

Delivery of the new equipment will commence early in the fall. Money for the purchases was provided by a loan from the Public Works Administration, on which the railroad pays four per cent interest.

FREIGHT CARS

THE CHICAGO GREAT WESTERN has ordered 500 box cars of 50 tons' capacity from the Pullman Car & Manufacturing Corporation. Inquiry for this equipment was reported in the *Railway Age* of April 7.

IRON AND STEEL

THE NEW YORK CENTRAL is inquiring for about 800 tons of structural steel for a viaduct at Weehawken, N. J.

THE MISSOURI PACIFIC has ordered 2,000 tons of structural steel for bridge work as follows: 250 tons for a bridge at Vineland, Mo., from the Virginia Bridge & Iron Company; 450 tons for a bridge at Benzol, Ark., from the McClintic-Marshall Corporation, and 1,300 tons for use at various points from the American Bridge Company.

SIGNALING

THE NEW YORK RAPID TRANSIT CORPORATION has ordered from the General Railway Signal Company 35 color-light signals, 35 automatic stops and other apparatus, for installation at Lexington avenue, New York City.

THE TELLEPSEN CONSTRUCTION COMPANY has ordered from the General Railway Signal Company, for installation at Mud Bayou Bridge, Tex., a mechanical interlocking machine, three levers, model C, for the control of rail locks, etc., and one table interlocking, two levers, for control of signals and derails; also, four signals and two switch machines.

MISCELLANEOUS

THE DELAWARE, LACKAWANNA & WESTERN has ordered one Whiting drop pit table for its enginehouse at Binghamton, N. Y. It is also in the market for three portable welding machines, two electric traction welders with grinders, and three spike setting machines.

Air Conditioning

The Baltimore & Ohio has given a contract to the York Ice Machinery Corporation, York, Pa., for air conditioning equipment for two new light weight, high-speed, streamlined trains. The 16 cars for these trains were ordered from the American Car & Foundry Company. The air conditioning systems will be of the built-in duct type and will provide air cooling and dehumidifying in summer and heating and humidifying in winter.

The Union Pacific has placed an order through the Pullman Car & Manufacturing Corporation with the Frigidaire Corporation for air-conditioning equipment for one six-car and two nine-car streamlined aluminum high-speed trains.

Construction

ALTON-CHICAGO & ILLINOIS MIDLAND.—Work will be begun in the near future on the construction of a steel and concrete subway to carry Sangamon avenue, Springfield, Ill., under the tracks of these companies. This project, which will involve a total expenditure of about $225,000, is to be financed with funds provided by the federal government.

LONGVIEW, PORTLAND & NORTHERN.—The Northern Pacific will receive bids soon for the erection of a Scherzer roller type lift span in the bridge across the Cowlitz river at Longview, Wash., on the L. P. & N. to replace the swing span that was washed out by high water last December. The lift span, which will be 187 ft. long, will be supported on concrete piers which will be carried to a depth of 70 ft. below water level. The piers are to be constructed by the open coffer dam method, and the lift span will be erected in an open position so as not to interfere with traffic on the river. This project has an estimated cost of $250,-000. The L. P. & N. is owned jointly by the Northern Pacific, the Great Northern, the Chicago, Milwaukee, St. Paul & Pacific and the Union Pacific.

NEW YORK, NEW HAVEN & HARTFORD.—This company plans to carry out work including interlocking changes at Columbus avenue, N. Y., to cost $26,300; the elimination of the grade crossing at Plattekill road, Modena, N. Y., to cost $84,000, and the reconstruction at a cost of $26,000 of bridge abutments and temporary support of tracks at Brewster, N. Y., to accommodate a new superstructure to be built by the State of New York.

Continued on next left-hand page

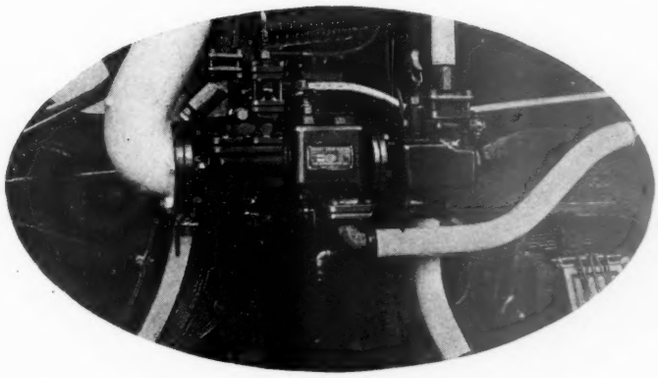
Where MORE Steaming Capacity Is Needed

Many locomotives built just a few years ago have difficulty meeting present-day operating conditions due to lack of steaming capacity at speed.

For these locomotives the Elesco exhaust steam injector offers a simple, inexpensive means of increasing capacity.

By utilizing a part of the exhaust steam to feed the boiler, the Elesco exhaust steam injector returns heat otherwise wasted to work again—and increases hauling capacity by just that much.

Operated as simply as the ordinary injector, and just as simply maintained, the Elesco exhaust steam injector increases the earning capacity of any locomotive to which it is applied.



THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

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Peoples Gas Building
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Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

Superheaters • Feed Water Heaters • Exhaust Steam Injectors
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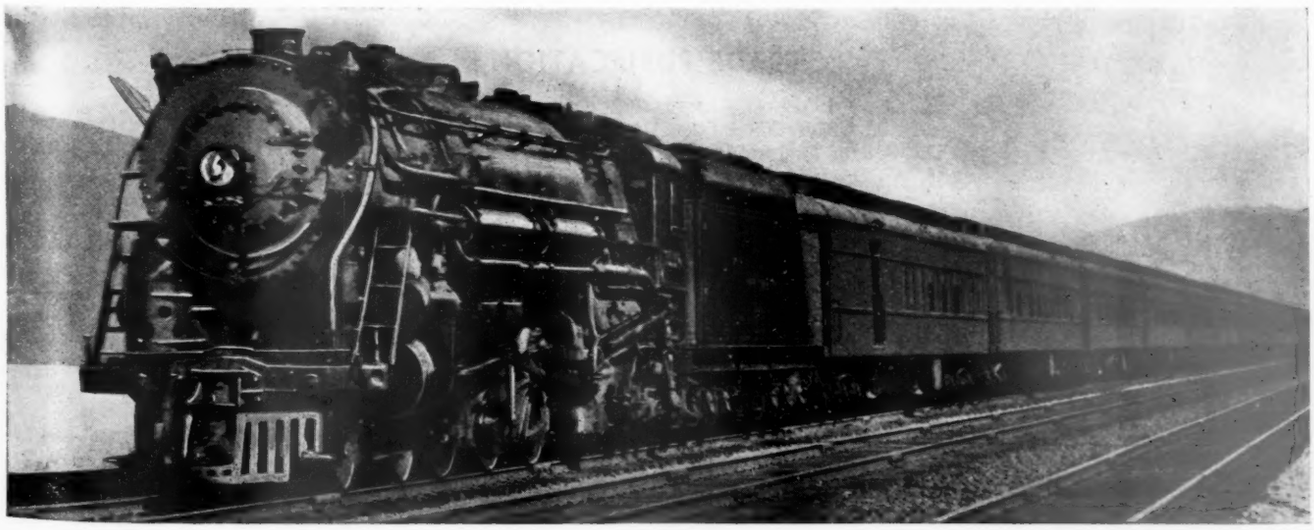
NRA MEMBER U.S. WE DO OUR PART



Supply Trade

Extension of Time to Modify By-Laws Granted Locomotive Institute

National Administrator Hugh S. Johnson has granted an additional 30 days to the Locomotive Institute, sponsors of the locomotive manufacturing industry's code, supplemental to the Machinery and Allied Products Code, in which to change its by-laws to conform with the requirements of the N. I. R. A. This action was in conformity with the extension of time granted the other supplementary codes under the same basic code

The Electric Railweld Sales Corporation, Chicago, has changed its name to **Teleweld, Inc.,** the change affecting only the name and not the personnel, management or policies.

The Rails Company, 50 Church street, New York, has been appointed general sales managers for the **Sterling Fibre Company,** Waltham, Mass., manufacturers of car seats and wool padding material.

A. F. King, formerly with the Buffalo, N. Y., and Philadelphia, Pa., district sales offices of the **Reading Iron Company,** has been transferred to Boston, Mass., as district sales representative. **John G. Ross,** for many years district sales representative at Boston, has resigned to accept a position elsewhere.

J. F. Franey has been appointed sales manager of the **Pilot Packing Company,** with headquarters in the Peoples' Gas Building, Chicago. Mr. Franey will have full charge of sales in the Chicago and adjacent territory. He served an apprenticeship as a machinist with the Chicago, Burlington & Quincy and later was with the American Locomotive Company at its Schenectady, N. Y., works on a special assignment. He then was appointed general foreman on the New York Central and subsequently was mechanical inspector on the Louisville & Nashville. During the war he was with the American Brake Shoe & Foundry Company, at Erie, Pa., engaged in supervising the manufacture of munitions. He left that company to go to the Denver & Rio Grande in charge of its Denver, Colo., shops. For the last seven years Mr. Franey has been engaged in selling and servicing mechanical engine packings to railroads in the Chicago territory.

J. F. Franey

OBITUARY

Rufus L. MacDuffie, president of Wendall & MacDuffie, New York, died on May 13 in New York. Mr. MacDuffie was born at Cambridge, Mass., 67 years ago and had been in business in New York since 1892.

Walter J. Sutherland, assistant treasurer of the S K F Industries, Inc., died on May 10 in the Hospital for Joint Diseases, New York, at the age of 40 years. During the World War he served as a captain in the 2nd Battalion, 306th Infantry, of the A.E.F., in which he was battalion adjutant; at the end of the war he joined the S K F Company.

William Ellis Corey, who was from August, 1903, to January, 1911, president of the United States Steel Corporation, died on May 11 at his home in New York at the age of 68 years. Mr. Corey was a director of a number of industrial organizations, including the Baldwin Locomotive Works, and the Vanadium Corporation of America; also a member of the American Iron & Steel Institute, Iron & Steel Institute of Great Britain and American Institute of Mining Engineers.

Oliver Harry Neal, eastern representative at New York City for the Union Asbestos & Rubber Company and the Equipment Specialties Company, died at Tucson, Ariz., on April 15, after a long illness. Mr. Neal was born at Baltimore, Md., on October 10, 1889. He served with the Baltimore & Ohio from January 9, 1907, to April 23, 1913, in capacities of machinist apprentice, machinist helper, machinist and fuel inspector. He resigned from that service and joined the Locomotive Lubricator Company, Chicago, with which company he was connected until January 1, 1925, when he entered service with the Union Asbestos & Rubber Company and Equipment Specialties Company, remaining in their employ until his death.

TRADE PUBLICATION

INTERNAL COMBUSTION ENGINE FUEL.—Under the title "A New and Better Fuel for Internal Combustion Engines," the Philgas Company, General Motors Building, Detroit, Mich., has issued a new bulletin, No. 38, which describes the advantages of liquefied petroleum gases such as butane and propane, for general use as a motor fuel. The bulletin describes the block testing of engines operated with this type of fuel and used for large stationary engines, pumping and generating engines, power rail car engines, and other applications. The advantages of the fuel, including increased power, increased efficiency, elimination of odors, etc., are summarized in 17 individual items on the last page of the bulletin.

Financial

ANN ARBOR.—*Annual Report.*—The 1933 annual report of this company shows net deficit, after interest and other charges, of $226,032, as compared with net deficit of $411,763, in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	293.86	293.86	.....
RAILWAY OPERATING REVENUES	$2,985.896	$3,116,589	-$130,693
Maintenance of way	312,686	398,711	-86,026
Maintenance of equipment	547,425	615,719	-68,295
Transportation—Rail	1,279,090	1,368,322	-89,233
TOTAL OPERATING EXPENSES	2,381,686	2,670,393	-288,707
Operating ratio	79.76	85.68	-5.92
NET REVENUE FROM OPERATIONS	604,210	446,196	+158,014
Railway tax accruals	164,977	196,216	-31,239
Railway operating income	438,935	249,268	+189,667
Hire of freight cars—Dr.	188,866	202,281	-13,414
Joint facility rents—Net	36,036	56,971	-20,935
NET RAILWAY OPERATING INCOME	220,246	31,755	+188,490
Non-operating income	14,181	17,720	-3,539
GROSS INCOME	234,427	49,475	+184,951
Interest on funded debt	420,136	428,338	-8,202
TOTAL DEDUCTIONS FROM GROSS INCOME	460,459	461,238	-779
NET INCOME (Deficit)	$226,032	$411,763	-$185,731

CHESAPEAKE & OHIO.—*Annual Report.*—The 1933 annual report of this road shows net income, after interest and other charges, of $28,239,810, as compared with net income of $23,527,755 in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	3,144.19	3,144.99	-.80
RAILWAY OPERATING REVENUES	$105,969,522	$98,725,859	+$7,243,663
Maintenance of way	11,180,782	10,382,493	+798,289
Maintenance of equipment	18,581,663	16,873,477	+1,708,186
Transportation	23,146,854	23,080,948	+65,906
TOTAL OPERATING EXPENSES	58,326,084	55,965,115	+2,360,969
Operating ratio	55.0	56.7	-1.7
NET REVENUE FROM OPERATIONS	47,643,438	42,760,744	+4,882,693
Railway tax accruals	9,575,893	9,341,428	+234,466
Railway operating income	38,051,389	33,402,330	+4,649,058
Equipment rents—Net	342,389	557,945	-215,557
Joint facility rents—Net Cr.	1,426,649	1,458,006	+31,356

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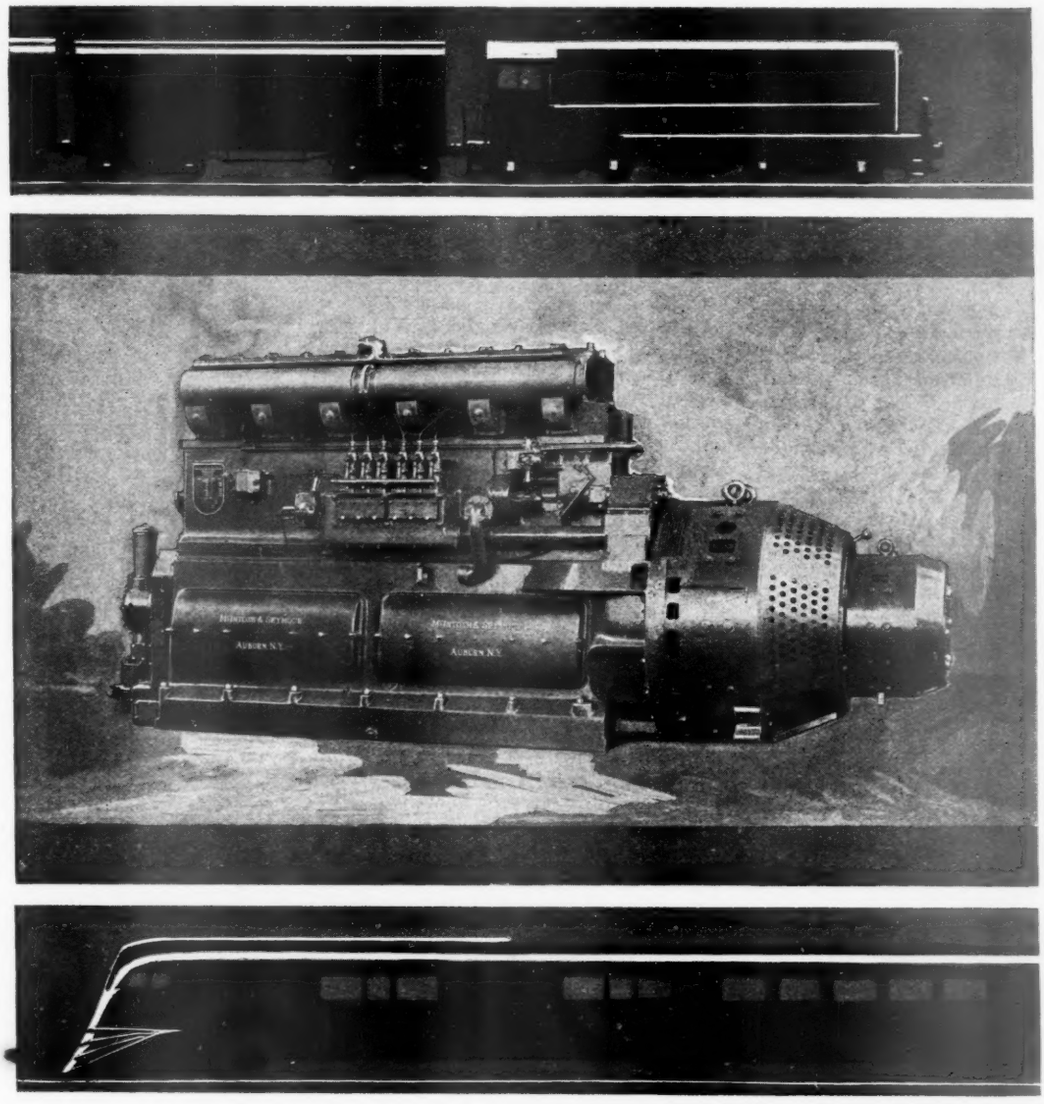

RAILROAD DIESELS FOR RAILROAD MEN

Reliability in service with low cost and ease of maintenance are the factors of prime importance to a buyer of Diesel locomotives.

These factors predominated all others at all times in the minds of the designers of the Alco unit.

AMERICAN LOCOMOTIVE COMPANY

ALCO DIESEL

30 CHURCH STREET · NEW YORK · N.Y.

Net Railway Operating Income	36,967,128	32,502,269	+4,464,858
Gross Income	38,675,807	34,306,302	+4,369,506
Rent for leased roads	36,706	36,826	−120
Interest on funded debt	10,255,980	10,618,569	−362,589
Total Deductions from Gross Income	10,435,997	10,778,547	−342,550
Net Income	$28,239,810	$23,527,755	+$4,712,055

Chicago & Western Indiana.—*Annual Report.*—The 1933 annual report of this company shows net income, after interest and other charges, of $427,764, an increase of $18,679 as compared with net income in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Railway Operating Revenues	$105,902	$117,964	−$12,061
Maintenance of way	13,208	17,051	−3,843
Maintenance of equipment	72,253	56,678	+15,575
Transportation—Rail	101,316	126,575	−25,258
Total Operating Expenses	198,454	222,977	−24,523
Operating ratio	187.39	189.02	−1.63
Net Loss From Operations	92,552	105,013	−12,462
Non-operating income	4,720,623	4,616,983	+103,639
Gross Income	4,628,071	4,511,970	+116,101
Rent for leased roads	130,977	133,752	−2,775
Interest on funded debt	3,241,532	3,264,848	−23,316
Total Deductions From Gross Income	4,200,306	4,102,885	+97,421
Net Income	$427,764	$409,085	+$18,679

Chicago & Eastern Illinois.—*Annual Report.*—The 1933 annual report of this company shows net deficit, after interest and other charges, of $2,020,504, as compared with net deficit of $3,411,419 in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	938.89	938.89	.....
Railway Operating Revenues	$12,218,449	$12,189,973	+$28,476
Maintenance of way	1,489,744	1,587,232	−97,487
Maintenance of equipment	1,749,788	2,151,415	−401,626
Transportation—Rail	5,047,139	5,435,627	−388,487
Total Operating Expenses	9,601,058	10,646,392	−1,045,334
Operating ratio	78.58	87.34	−8.76
Net Revenue from Operations	2,617,391	1,543,581	+1,073,810
Railway tax accruals	920,000	1,280,000	−360,000
Railway operating income	1,693,599	256,794	+1,436,804
Equipment rents—Net Dr.	799,384	796,092	+3,292
Joint facility rents—Net Dr.	686,918	744,039	−57,122
Net Railway Operating Income	207,297	1,283,337	−1,490,634
Non-operating income	134,150	197,771	−63,622
Gross Income	341,447	1,085,566	−1,427,012
Rent for leased roads	154,624	154,054	+571
Interest on funded debt	1,772,353	1,819,325	−46,972
Total Deductions from Gross Income	2,361,950	2,325,853	+36,097
Net Income (Deficit)	$2,020,504	$3,411,419	−$1,390,915

Chicago Great Western.—*St. Paul Bridge & Terminal Control.*—The Interstate Commerce Commission has authorized this company to acquire control by lease of the St. Paul Bridge & Terminal and the St. Paul Union Stockyards. A condition is imposed requiring the Great Western to maintain a separate seniority register for the employees of the terminal company and that no employee of the latter company shall be placed in a worse position by reason of control of the terminal by the Great Western than he would if the independent status of the company were maintained.

Chicago, Milwaukee, St. Paul & Pacific.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Doering, Wis., to Kalinke, 14.7 miles.

Chicago, Milwaukee, St. Paul & Pacific.—*Election of Directors.*—At the annual meeting of stockholders of the Milwaukee, which was held at Milwaukee, Wis., on May 8, all directors were re-elected except Walter P. Chrysler, who was not a candidate for re-election. With this change the board of directors was reduced from 14 to 13 members.

Chicago, Rock Island & Pacific.—*Consolidation Proceedings Dismissed.*—The Interstate Commerce Commission has dismissed the proceedings in which this company had sought authority to effect a consolidation with its subsidiary companies, at the request of the trustees, who had stated that they could not accept the commission's condition as to acquisition of the Wichita & Northwestern.

Chicago, Rock Island & Pacific.—*Bond Holders Committees.*—The protective committee representing holders of St. Paul & Kansas City Short Line first mortgage bonds due 1941 and Rock Island, Arkansas & Louisiana first mortgage 4½ per cent bonds due March 1, 1934, has deemed it advisable to represent only the former issue and a new committee has been formed to represent the latter. William V. Griffin is chairman of the St. Paul & Kansas City Short Line committee and James G. Blaine of that representing the R. I., A. & L. issue.

Great Northern.—*New Director.*—Frank P. Henry, Buffalo, N. Y., has been elected a member of the board of directors of this company to fill the vacancy caused by the death of Edward T. Nichols.

Minneapolis & St. Louis.—*To Be Sold September 5.*—This road, which has been in receivership since 1923, will be offered for sale at public auction on September 5, 1934, in accordance with an order issued by Federal Judge Wilbur F. Booth at Minneapolis, Minn., on May 2. The sale is to be made under mortgage foreclosure to satisfy claims of mortgage bondholders. In case there is no bid for the property September 5, it is expected an effort to reorganize the road and readjust its debt and capitalization will be undertaken jointly by bondholders' committees and holders of preferred claims.

New York, Chicago & St. Louis.—*Annual Report.*—The annual report of this road for 1933 shows net deficit, after interest and other charges, of $1,205,636, as compared with net deficit of $4,410,434 in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	1,690.85	1,694.71	−3.86
Railway Operating Revenues	$30,647,506	$29,158,468	+$1,489,038
Maintenance of way	2,999,054	3,560,538	−561,484
Maintenance of equipment	4,652,729	4,967,751	−315,021
Transportation	10,581,804	10,843,056	−261,252
Total Operating Expenses	20,734,958	22,106,727	−1,371,769
Operating ratio	67.66	75.82	−8.16
Net Revenue from Operations	9,912,548	7,051,741	+2,860,807
Railway tax accruals	1,641,606	1,970,186	−328,581
Railway operating income	8,264,649	5,072,496	+3,192,153
Equipment rents—Net Cr.	2,612,692	2,429,644	+183,048
Joint facility rents—Net Cr.	435,069	501,699	−66,629
Net Railway Operating Income	5,216,887	2,141,153	+3,075,734
Gross Income	6,638,849	3,569,426	+3,069,423
Rent for leased roads	89,263	200,844	−111,581
Interest on funded debt	7,677,172	7,707,250	−30,078
Total Deductions from Gross Income	7,844,485	7,979,860	−135,375
Net Income (Deficit)	$1,205,636	$4,410,434	−$3,204,798

Pere Marquette.—*Annual Report.*—The 1933 annual report of this company shows net deficit, after interest and other charges, of $1,602,077, as compared with net deficit of $3,046,668 in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	2,296.43	2,314.04	−17.61
Railway Operating Revenues	$21,947,295	$21,461,277	+$486,018
Maintenance of way	2,704,843	2,781,046	−76,203
Maintenance of equipment	5,025,937	4,831,296	+194,641
Transportation	8,387,749	8,576,430	−188,681
Total Operating Expenses	17,892,720	18,189,896	−297,176
Operating ratio	81.53	84.76	−3.23

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NET REVENUE FROM OPERATIONS	4,054,575	3,271,381	+783,195
Railway tax accruals	1,071,231	1,573,636	−502,405
Railway operating income	2,969,731	1,671,494	+1,298,236
Equipment rents—Net Cr.	677,616	754,269	−76,653
Joint facility rents—Net Cr.	567,659	591,753	−24,094
NET RAILWAY OPERATING INCOME	1,724,456	325,472	+1,398,983
GROSS INCOME	2,166,153	803,319	+1,362,835
Rent for leased roads	97,036	97,606	−570
Interest on funded debt	3,574,062	3,629,625	−55,563
TOTAL DEDUCTIONS FROM GROSS INCOME	3,765,625	3,847,929	−82,305
NET INCOME (Deficit)	$1,599,471	$3,044,611	−$1,445,139

PITTSBURGH & WEST VIRGINIA.—*Annual Report.*—The 1933 annual report of this company shows net deficit, after interest and other charges, of $106,106, as compared with net deficit of $433,530 in 1932. Selected items from the income statement follow:

	1933	1932	Increase or Decrease
Average Mileage Operated	138.25	138.25	.....
RAILWAY OPERATING REVENUES	$2,530,258	$2,239,822	+$290,436
Maintenance of way	241,741	230,961	+10,780
Maintenance of equipment	605,546	633,681	−28,135
Transportation	492,995	457,374	+35,621
TOTAL OPERATING EXPENSES	1,713,273	1,739,947	−26,674
Operating ratio	67.71	77.68	−9.97
NET REVENUE FROM OPERATIONS	816,985	499,875	+317,110
Railway tax accruals	242,513	131,069	+111,444
Railway operating income	574,472	368,189	+206,283
Hire of freight cars—Net	363,412	296,864	+66,548
Equipment rents—Net Dr.	14,002	14,194	−192
Joint facility rents—Net Dr.	19,042	31,837	−12,795
NET RAILWAY OPERATING INCOME	904,840	619,023	+285,817
Non-operating income	14,619	19,020	−4,401
GROSS INCOME	919,459	638,043	+281,416
Interest on funded debt	978,801	862,085	+116,716
TOTAL DEDUCTIONS FROM GROSS INCOME	1,025,565	1,071,573	−46,008
NET INCOME (Deficit)	$106,106	$433,530	−$327,424

ST. LOUIS-SAN FRANCISCO.—*Abandonment.*—The trustees have applied to the Interstate Commerce Commission for authority to abandon a branch line from Browningtton, Mo., to Lowry City Junction, 6.18 miles.

UNION PACIFIC. — *Abandonment and Operation.* — The Interstate Commerce Commission has authorized the Los Angeles & Salt Lake to abandon certain short sections of track in Long Beach, Cal., and in lieu thereof to operate over approximately 3 miles of lines owned by the Southern Pacific, the Pacific Electric and the municipality of Long Beach.

Average Prices of Stocks and of Bonds

	May 15	Last week	Last year
Average price of 20 representative railway stocks..	40.72	42.68	34.96
Average price of 20 representative railway bonds..	77.87	79.08	62.72

Dividends Declared

Alabama Great Southern.—Preferred, 3 per cent, payable August 15 to holders of record July 14.

North Pennsylvania.—$1.00, quarterly, payable May 25 to holders of record May 14.

Pittsburgh, Bessemer & Lake Erie.—6 Per Cent Preferred, 3 per cent, semi-annually, payable June 1 to holders of record May 15.

Union Pacific.—Common, $1.50, payable July 2 to holders of record June 1.

Railway Officers

EXECUTIVE

Carl Bucholtz, who has been elected president of the Virginian, with headquarters at Norfolk, Va., as reported in the *Railway Age* of May 12, was born in Baltimore, Md., on March 21, 1883. He was educated at Loyola college and entered railway service with the Baltimore & Ohio as special machinist apprentice in June, 1902. From June, 1904, to March, 1906, he was maintenance of way inspector for the same road and on the latter date he was appointed assistant engineer of the Baltimore division. He served in that position until August, 1907, when he became assistant division engineer of the Cumberland division at Cumberland, Md. He was supervisor of track of the Mountain district of the same road from February to December, 1908, then becoming maintenance of way inspector on the Missouri Pacific-St. Louis & Iron Mountain system at Little Rock, Ark. He remained in this latter position until June, 1910, when he was appointed division engineer of the Joplin division for the same system at Nevada, Mo. In November, 1914, Mr. Bucholtz entered the service of the Erie as assistant engineer at Cleveland, Ohio, also serving on special duties assigned to him by the assistant general manager. In January, 1915, he became division engineer of the Meadville division of the Erie and from May to October of the following year he was trainmaster on the Marion division at Huntington, Ind. He became assistant superintendent of the Mahoning division on the latter date and in November, 1917, he was appointed superintendent of the same division. He was assistant general manager of the Western district from February to November, 1927, at which time he was appointed general manager of that district. Mr. Bucholtz resigned as general manager of the Erie in March, 1932, and in April, 1933, entered the service of the Virginian as general manager, with headquarters in Norfolk, Va. He became vice-president and general manager of that road in August, 1933, serving in that capacity continuously until his recent election to the presidency of the road.

FINANCIAL, LEGAL AND ACCOUNTING

J. D. Brown, paymaster for the Missouri Pacific, with headquarters at St. Louis, Mo., retired on pension on May 1.

H. K. Dougan, executive assistant on the Great Northern, has been appointed assistant general auditor, with headquarters as before at St. Paul, Minn.

F. J. McKeon, chief clerk in the office of the local treasurer of the Missouri Pacific, at St. Louis, Mo., has been promoted to paymaster, with the same headquarters, succeeding **J. D. Brown,** who has retired.

Sherwood Johnston, secretary of the Kansas City, Mexico & Orient of Mexico, has been appointed treasurer, with headquarters as before at Los Mochis, Sin., and **F. Gastelum** has been appointed secretary to succeed Mr. Johnston.

E. S. Gentle, auditor of the Chicago River & Indiana, has had his jurisdiction extended over the Indiana Harbor Belt, replacing **W. M. O'Brien,** deceased. Mr. Gentle's headquarters have been moved from Chicago to Gibson, Ind. **F. G. Middleton,** auditor of disbursments of the I. H. B., has been appointed to the newly-created position of assistant auditor, with headquarters as before at Gibson. The position of auditor of disbursements has been abolished.

OPERATING

H. E. Barber, formerly president and general manager of the Marion & Eastern, has been appointed superintendent of the Wiota-Ft. Peck Railroad, the 14-mile government-owned line which serves the Ft. Peck dam site near Glasgow, Mont.

TRAFFIC

L. A. Powell has been appointed general agent at Winston-Salem, N. C., for the Chicago, Attica & Southern.

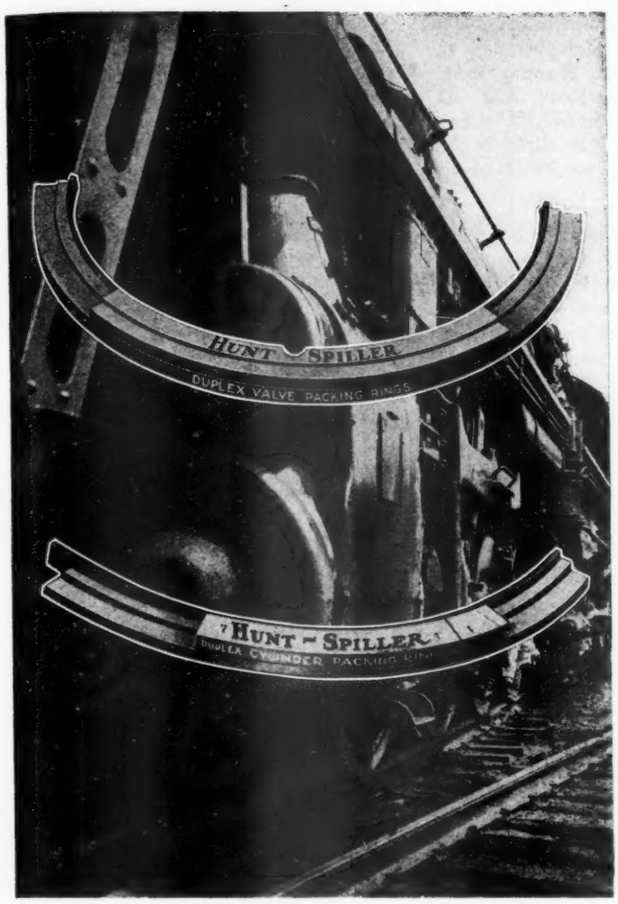
J. Edgar Graham has been appointed traveling coal agent for the Virginian, with headquarters at Norfolk, Va., effective May 15.

D. C. Wilkens has been appointed general agent at Fresno, Cal., for the Denver & Rio Grande Western, succeeding **C. E. Fleming.**

C. S. Rogers, commercial agent for the St. Louis Southwestern at Pittsburgh, Pa., has been promoted to general agent at Philadelphia, Pa., succeeding **Grey Bruno,** resigned.

L. S. Byrne, traveling freight agent on the Pere Marquette at Toledo, Ohio, has been promoted to general agent at that point, succeeding **J. W. Redmond,** deceased.

Continued on next left-hand page



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Air Furnace

H. C. Forgy has been appointed supervisor of mail and baggage traffic of the Union Pacific System, with headquarters at Omaha, Neb., succeeding **J. E. Mallette,** who has retired.

T. B. Brennan, traveling passenger agent at Buffalo, N. Y., for the Southern Pacific, has been promoted to general agent of Indianapolis, Ind., to succeed **Earl Z. Giblon. J. G. Lowe,** traveling freight agent at Kansas City, Mo., has been promoted to general agent at the same point to succeed **F. W. Sedgwick.**

A. H. Seaver, whose appointment as passenger traffic manager of the New York, New Haven & Hartford, with headquarters at Boston, Mass., was noted in the *Railway Age* of May 12, was born on June 19, 1876, at Boston, Mass. He entered railway service in July, 1895, with the New York, New Haven & Hartford, and from July, 1902, to February, 1904, served on this road as chief rate clerk at Boston. He then became chief clerk in the passenger department of the Marine district of the New Haven at New York, which position he held until May, 1910. Mr. Seaver was then appointed assistant general passenger agent of the New Haven at New York, and served in this capacity

A. H. Seaver

until August 31, 1918. From May 12, 1910, until March 14, 1913, he was also assistant general passenger agent of the New England Steamship Company (a subsidiary of the New York, New Haven & Hartford, and formerly the New England Navigation Company). In March, 1913, Mr. Seaver became general passenger agent of the New England Steamship Company. In October, 1927, he returned to Boston as assistant passenger traffic manager of both the New England Steamship Company and the New Haven, the position he held until his recent appointment.

MECHANICAL

J. P. Kelly, master mechanic on the Canadian Pacific at Saskatoon, Sask., has been transferred to Calgary, Alta., succeeding **F. D. Warner,** who in turn has been transferred to Saskatoon to replace Mr. Kelly.

Richard Smith has been appointed master mechanic on the Missouri Pacific at Memphis, Tenn., with jurisdiction over the Union Railway of Memphis and the Memphis division. **E. R. Hanna,** master mechanic at North Little Rock, Ark., has been relieved of jurisdiction over the Union Railway and the Memphis division, but will continue as master mechanic of the Arkansas division.

D. J. Mullen, superintendent of motive power of the Cleveland, Cincinnati, Chicago & St. Louis, has been appointed superintendent of equipment, and **F. K. Murphy,** assistant superintendent of motive power, has been appointed assistant superintendent of equipment of both with headquarters as before at Indianapolis, Ind. Mr. Mullen and Mr. Murphy will have jurisdiction over the motive power and rolling stock departments (other than shop operations). The positions of superintendent of motive power and superintendent of rolling stock, the latter position being held by **J. A. Brossart,** at Indianapolis, have been abolished.

E. A. Schrank, general foreman in the locomotive department of the Chicago, Burlington & Quincy, with headquarters at Galesburg, Ill., has been promoted to master mechanic of the McCook division, with headquarters at McCook, Neb., succeeding **H. Modaff.** Mr. Modaff has been appointed acting superintendent of shops with headquarters at West Burlington, Iowa, replacing **W. F. Ackerman,** who is on a leave of absence because of ill health. **F. R. Butts,** assistant master mechanic of the St. Joseph division, with headquarters at St. Joseph, Mo., has been appointed master mechanic of this division and the position of assistant master mechanic has been abolished. This appointment cancels the notice of March 21, 1932, extending the jurisdiction of the master mechanic at Hannibal, Mo., over the St. Joseph division.

ENGINEERING AND SIGNALING

R. E. Gallagher, assistant electrical engineer of the Louisville & Nashville, has been promoted to electrical engineer, with headquarters as before at Louisville, Ky., succeeding **C. L. Kincaid,** deceased.

PURCHASES AND STORES

A. H. Lillengren, acting purchasing agent for the Great Northern, with headquarters at St. Paul, Minn., has been appointed purchasing agent at that point.

OBITUARY

William H. Lyford, vice-president and general counsel of the Chicago & Eastern Illinois, with headquarters in Chicago, died on May 16 in the Alexian Brothers' hospital, following an operation. Mr. Lyford was 76 years of age.

Duncan K. Brent, general attorney for the Baltimore & Ohio, with headquarters at Baltimore, Md., died suddenly at his home in Ruxton, near Baltimore, on May 14. Mr. Brent was born at New Orleans, La., on October 9, 1877. He was educated at Johns Hopkins University (A. B. degree 1898) and the University of Maryland (LL.B. degree 1900). Mr. Brent entered the legal department of the Baltimore & Ohio in 1902 and has been general attorney for the road since that time.

John M. Condon, assistant vice-president of the Erie at Cleveland, Ohio, whose death in that city was reported in the *Railway Age* of May 12, was born at Galion, Ohio, on November 24, 1883. He was educated in the high school in that city and entered railway service in 1901 as clerk for the Erie at Galion, Ohio, serving in that position until 1905, when he was appointed general yardmaster for the same road at Marion, Ohio. From 1912 to 1913 he was in train service on the Southern Pacific and Santa Fe and from the latter date until 1914 he was yardmaster for the Cleveland, Cincinnati, Chicago

John M. Condon

& St. Louis. He returned to the Erie in 1914 as general yardmaster at Marion, O. In April, 1916, Mr. Condon was appointed inspector of transportation at Youngstown, O. Later in the same year he was appointed trainmaster at Marion and in 1917 he became assistant superintendent. From 1918 to 1920 he served as superintendent of terminals at Jersey City, N. J., then becoming superintendent of the New York division. In June, 1921, he became superintendent also of the New York, Susquehanna & Western (a part of the Erie). Mr. Condon was appointed general manager of the Erie in September, 1927, with headquarters in Jersey City, and in June, 1929, he was further promoted to the position of assistant vice-president, in which capacity he served until the time of his death.

Walter T. Sadler, superintendent of the St. Joseph division of the Chicago, Burlington & Quincy, with headquarters at St. Joseph, Mo., died on May 12 of heart disease. Mr. Sadler had been connected with the Burlington for more than 32 years. He was born on November 17, 1869, at Kewanee, Ill., and entered the service of the Burlington in 1890 as a brakeman at Aurora, Ill. Eleven years later he was promoted to conductor and on December 20, 1906, he was further advanced to train-

(Continued on page 760)

Railroad annual report advertising begins on next left-hand page

Annual Report of the New York Central Railroad Company

To the Stockholders of

THE NEW YORK CENTRAL RAILROAD COMPANY:

The Board of Directors herewith submits its report for the year ended December 31, 1933, with statements showing the income account and the financial condition of the company.

The Year's Business

While there was a slight improvement in freight traffic, there were substantial reductions in passenger and other classes of traffic.

Operating revenues amounted to $283,341,102.37, a decrease of $10,295,037.91 (3.51%).

Revenue freight handled amounted to 91,248,346 tons, an increase of 4,925,500 tons (5.70%). Freight revenues were $194,286,543.57, an increase of $958,411.88 (.50%).

The company carried 45,018,512 revenue passengers, a decrease of 5,762,676, divided as follows: interline passengers 134,140, a decrease of 7.09%, local passengers 43,487, a decrease of .37%, and commutation passengers 5,585,049, a decrease of 15%. Revenue from passengers amounted to $53,231,807.96, a decrease of $6,920,113.92 (11.50%).

Net railway operating income was $33,269,162.45, an increase of $12,456,175.12.

Operations for the year resulted in an income deficit of $5,412,513.71, after charges for depreciation and retirements of $6,439,095 and $8,200,278, respectively.

Income Account for the Year

Including Boston & Albany Railroad, Ohio Central Lines, Michigan Central Lines, Big Four Lines, and All Other Leased Lines

	Year ended Dec. 31, 1933	Year ended Dec. 31, 1932	+ Increase or − Decrease
OPERATING INCOME	11,413.82 *miles operated*	11,438.32 *miles operated*	−24.50 *miles*
RAILWAY OPERATIONS			
Railway operating revenues	$283,341,102.37	$293,636,140.28	−$10,295,037.91
Railway operating expenses	207,923,294.20	227,176,620.18	−19,253,325.98
NET REVENUE FROM RAILWAY OPERATIONS	$75,417,808.17	$66,459,520.10	+$8,958,288.07
Percentage of expenses to revenues	(73.38)	(77.37)	−(3.99)
Railway tax accruals	$26,456,636.66	$30,083,641.76	−$3,627,005.10
Uncollectible railway revenues	173,395.72	90,672.27	+82,723.45
RAILWAY OPERATING INCOME	$48,787,775.79	$36,285,206.07	+$12,502,569.72
Equipment rents, net debit	$11,592,638.33	$11,281,581.30	+$311,057.03
Joint facility rents, net debit	3,925,975.01	4,190,637.44	−264,662.43
NET RAILWAY OPERATING INCOME	$33,269,162.45	$20,812,987.33	+$12,456,175.12
MISCELLANEOUS OPERATIONS			
Revenues	$683,664.27	$745,324.36	−$61,660.09
Expenses and taxes	548,974.58	683,470.06	−134,495.48
MISCELLANEOUS OPERATING INCOME	$134,689.69	$61,854.30	+$72,835.39
TOTAL OPERATING INCOME	$33,403,852.14	$20,874,841.63	+$12,529,010.51
NON-OPERATING INCOME			
Income from lease of road	$131,177.64	$126,361.35	+$4,816.29
Miscellaneous rent income	4,182,542.61	4,785,431.96	−602,889.35
Miscellaneous non-operating physical property	2,594,910.99	3,545,802.10	−950,891.11
Separately operated properties—profit	385,163.44	139,478.82	+245,684.62
Dividend income	6,594,446.90	6,817,340.28	−222,893.38
Income from funded securities and accounts	5,081,151.97	5,218,299.23	−137,147.26
Income from unfunded securities and accounts	2,079,935.91	2,562,572.74	−482,636.83
Income from sinking and other reserve funds	185,647.61	186,308.55	−660.94
Release of premiums on funded debt	30,911.40	33,410.41	−2,499.01
Miscellaneous income	121,559.71	207,175.31	−85,615.60
TOTAL NON-OPERATING INCOME	$21,387,448.18	$23,622,180.75	−$2,234,732.57
GROSS INCOME	$54,791,300.32	$44,497,022.38	+$10,294,277.94

DEDUCTIONS FROM GROSS INCOME	Year ended Dec. 31, 1933	Year ended Dec. 31, 1932	+ Increase or − Decrease
Rent for leased roads	$26,423,121.65	$25,659,829.82	+$763,291.83
Miscellaneous rents	1,250,090.17	1,504,886.57	−254,796.40
Miscellaneous tax accruals	400,369.65	2,515,288.29	−2,114,918.64
Separately operated properties—loss	41,435.96	93,906.98	−52,471.02
Interest on funded debt	28,153,486.57	28,348,689.95	−195,203.38
Interest on unfunded debt	3,792,577.89	3,988,230.47	−195,652.58
Amortization of discount on funded debt	.....	471,457.35	−471,457.35
Maintenance of investment organization	11,175.95	18,251.04	−7,075.09
Miscellaneous income charges	131,556.19	152,881.99	−21,325.80
TOTAL DEDUCTIONS FROM GROSS INCOME	$60,203,814.03	$62,753,422.46	−$2,549,608.43
NET DEFICIT	$5,412,513.71	$18,256,400.08	−$12,843,886.37
Sinking and other reserve funds	.....	$65,418.35	−$65,418.35
Miscellaneous appropriations of income	.....	4,731.69	−4,731.69
TOTAL APPROPRIATIONS OF INCOME	.....	$70,150.04	−$70,150.04
DEFICIT FOR THE YEAR	$5,412,513.71	$18,326,550.12	−$12,914,036.41

Profit and Loss Account

BALANCE TO CREDIT OF PROFIT AND LOSS, DECEMBER 31, 1932		$238,624,521.10
ADDITIONS:		
Profit on road and equipment sold		49,161.74
		$238,673,682.84
DEDUCTIONS:		
Deficit for the year 1933	$5,412,513.71	
Depreciation prior to July 1, 1907 on equipment retired during the year	486,560.39	
Loss on property retired	2,087,824.19	
Surplus appropriated for investment in physical property (reinvestment of proceeds of property sold)	4,628,657.58	
Sundry adjustments (net), unrefundable overcharges, uncollectible accounts, etc.	76,487.79	12,692,043.66
BALANCE TO CREDIT OF PROFIT AND LOSS, DECEMBER 31, 1933		$225,981,639.18

West Side Improvements, New York City

Material progress was made during the year in the work of removal of the tracks from their cross and longitudinal occupation of the City streets to a privately owned right of way at grade separated from the streets. In the territory from 30th Street southerly to 18th Street the new elevated structure has been completed, including connections to the new United States Parcel Post Building under construction at West 30th Street and 10th Avenue which will be completed during the early part of 1934. Work is under way on the elevated structure southerly of 18th Street and on the new St. Johns Park freight terminal located at Spring Street, to be completed in the early summer of 1934, at which time the new facilities south of 30th Street will be placed in service. When these facilities shall have been finished approximately 85 per cent (in terms of cost) of the entire West Side Improvement will have been completed.

Elimination of Grade Crossings at Syracuse, N. Y.

Pursuant to orders from the public authorities, work is under way for the elimination of 59 street grade crossings in the City of Syracuse under the plan contemplating the removal of the main line tracks from the occupation of City streets and the construction of a new elevated main line generally following the old route of the West Shore Railroad to the north. The present work covering the first stage of the program, including grading and street approaches, was begun during the latter part of the year.

The Board wishes to express its appreciation of the loyal and efficient service of the officers and employees of the company during the year.

For the Board of Directors,

F. E. WILLIAMSON,

President.

The Baltimore and Ohio Railroad Company

SUMMARY OF ANNUAL REPORT FOR 1933

OFFICE OF THE PRESIDENT

Baltimore, Md., April 18, 1934.

To the Stockholders of the Baltimore and Ohio Railroad Company:

The President and Directors present herewith a statement of the operations of the Company for the year ended December 31, 1933, including condensed Income Account compared with the preceding year, and Balance Sheet as of December 31st, with other information which may be of interest.

The Annual Report in the customary form will be sent later to all stockholders who have advised or may advise the Secretary of the Company of their desire to receive it.

The net income for the year after payment of interest and all other fixed charges, amounted to $204,772, as compared with a deficit in 1932 of $6,334,978 or an improvement in net income for 1933 of $6,539,750.

Compared with the preceding year, freight revenue reflected an increase of $7,320,236 notwithstanding the emergency increase in rates authorized by the Interstate Commerce Commission, effective January 4, 1932 which had contributed about $300,000 per month to the Company's revenues, terminated as of September 30, 1933.

While there was a marked improvement in the passenger traffic during the last six months of the year as compared with the corresponding period of the previous year, the increase was not sufficient to overcome the drastic decline in the first six months, and as a result there was a decrease in passenger revenue for the year of $564.217, or 5.44%. There was, however, an increase of 1.62% in revenue passenger miles, reflecting improvement in the long-haul business. The Century of Progress Exposition held at Chicago from May 27th to November 12th, 1933, was a contributing factor to the increased passenger revenue realized during the last half of the year. The operation by your Company of completely air conditioned trains between New York and Chicago and St. Louis was also effective in regaining to your line some of the passenger traffic which had been diverted to other forms of transportation. Further additions during the year to the air conditioned equipment permitted more extended service of this character.

Advantage was taken of the increased revenues to pursue a more liberal maintenance program. The expenditures for maintaining roadway and track were $622,333 greater than in 1932. Maintenance of Equipment expenses were increased $1,853,693, representing not only increased expenditures on equipment, but also increase in the depreciation charges.

The property has been adequately maintained to assure safe and dependable service.

Although traffic as a whole increased, transportation expenses were reduced by $2,571,341, or 5.55%, and consumed but 33.21 cents out of each dollar of revenue earned as compared with 36.82 cents in 1932.

During the year 1933 the obligations of the Company, outstanding in the hands of the public, were reduced more than $8,900,000.

The present trend of industry seems to justify expectation for further improvement, and while no prophecy for the immediate future is here ventured, the outlook is more reassuring than it was one year ago. With further revival of commerce your Company should share in the anticipated benefits from such recovery.

To secure as great a volume of traffic as possible under present conditions, the interest and co-operation of the stockholders is most earnestly solicited.

Very respectfully,

DANIEL WILLARD,
President.

INCOME ACCOUNT

	1933	Increase or Decrease Compared With Previous Year. Amount	%
Revenue from freight transportation	$113,380,296	$ 7,320,236	6.90
Revenue from passenger transportation	9,798,466	* 564,217	* 5.44
Revenue from mail, express and other transportation service	8,613,491	* 846,589	* 8.95
Total Railway Operating Revenues	$131,792,253	$ 5,909,430	4.69
Maintenance of Way and Structures	$ 10,939,855	$ 622,333	6.03
Maintenance of Equipment	24,011,165	1,853,693	8.37
Traffic	4,026,271	* 707.776	*14.95
Transportation	43,771,782	* 2,571,341	* 5.55
General	6,545,184	* 608,745	* 8.51
Miscellaneous	1,075,443	126,601	13.34
Total Railway Operating Expenses	$ 90,369,700	$*1,285,235	* 1.40
Transportation Ratio	33.21%	.....	....
Total Operating Ratio	68.57%	.....	....
Net Revenue from Railway Operations	$ 41,422,553	$ 7,194,665	21.02
Taxes	$ 8,156,726	$* 748,292	* 8.40
Equipment, Joint Facility Rents, etc.	4,416,626	1,067,154	31.86
Total Charges to Net Revenue	$ 12,573,352	$ 318,862	2.60
Net Railway Operating Income, as defined in Transportation Act of 1920	$ 28,849,201	$ 6,875,803	31.29
Other Income—Rents, Dividends on Stock and Interest on Bonds owned	6,218,021	* 360,808	* 5.48
Total Income from all sources	$ 35,067,222	$ 6,514,995	22.82
Deductions for Interest and Rentals	$ 33,715,331	$ 319,365	0.96
All Other Charges against Income	1,147,119	* 344,120	* 23.08
Total Deductions from Income	$ 34,862,450	$* 24,755	* 0.07
Net Income or deficit	$ 204,772	$ 6.539,750	.....

*Decrease.

CONDENSED GENERAL BALANCE SHEET—DECEMBER 31, 1933

ASSETS

Investment in Property used in Transportation Service		$ 987,243,034
Road	$ 716,764,832	
Equipment	260,015,002	
Investment in Perpetual Leaseholds—Capitalized (per contra)	10,463,200	
Investment in Separately Operated Properties		99.079,055
Investment in Other Companies		95,384,122
Investment in Miscellaneous Physical Property, etc.		4,643,225
Total Investments		$1,186,349,436
Current Assets		29,733,147
Cash	$ 6,674,116	
Materials and Supplies, Traffic and Agents' Balances, etc.	23,059,031	
Deferred Assets, including Insurance Fund		4,390,747
Unadjusted Debits		360,484
Grand Total		$1,220,833,814

LIABILITIES

Capital Stock		$ 315,158,510
Preferred Stock	$ 58,863,162	
Common Stock	256,295,348	
Capital Debt		684,381,370
Mortgage Bonds	$ 493,414,300	
Equipment Trust Obligations	42,888,200	
Loans and Bills Payable—		
Reconstruction Finance Corporation Loans	69,582,777	
Other Loans and Bills Payable	22,102,367	
Miscellaneous Obligations	2,358,076	
Unassumed Obligations of Operated Subsidiaries	43,577,700	
Capitalized Leaseholds (per contra)	$10,463,200	
Less capital stock of lessors held by the Company	5,250	10,457,950
Current Liabilities—Traffic and Car Service, Accounts and Wages Payable, Accrued Interest, etc.		22,699,337
Liability for Provident Funds and Other Deferred Liabilities		1,104,110
Accrued Depreciation on Equipment	82,455,574	
Other Unadjusted Credits	8,626,744	91,082,318
Inter-company Non-negotiable Accounts (Net Balance)		14,597,059
Premium on Sale of Common Stock	3,355,721	
Surplus	88,455,389	91,811,110
Grand Total		$1,220,833,814

News (Railway Officers)

(*Continued from page 758*)

master with the same headquarters, later being transferred to Galesburg, Ill. Mr. Sadler was promoted to assistant superintendent at Galesburg on August 1, 1912, being transferred to LaCrosse, Wis., on September 1 of the same year. On January 15, 1916, he was advanced to superintendent at Casper, Wyo., and in the following year he was transferred to Creston, Iowa. On August 1, 1923, he was again transferred to St. Joseph, where he was located at the time of his death.

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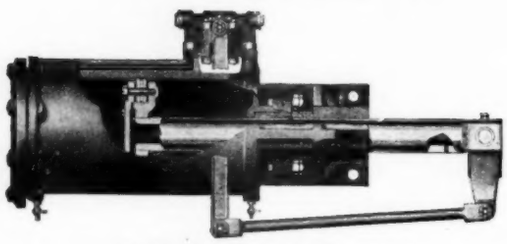
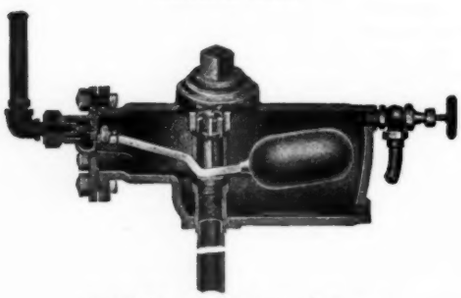


BARCO Type M1 Power Reverse Gear



BARCO Low Water Alarm

BARCO Metallic Steam Heat Connections

BARCO 3-V Engine-Tender Connections

APPLICATION of BARCO devices will insure a high standard of performance — greater efficiency — lower repair costs — savings in fuel consumption and guard against damage and disaster.

BARCO Power Reverse Gears will make it easy for your engineers to select and maintain the most efficient point of cut-off without calling upon the maintenance forces to make frequent adjustments and repairs.

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